DOCUMENT RESUME

ED 159 429 CE 017 851

AUTHOR Cantwell, Zita M.
TITLE Annotated Bibliography of Literature Related to Adult Problem Solving (Preliminary Edition.) Final Report.
INSTITUTION City Univ. of New York, Brooklyn, N.Y. Brooklyn Coll.
SPONS AGENCY New York State Education Dept., Albany. Bureau of Special Continuing Education.
PUB DATE 18 Jul 77
NOTE 446p.; Some pages of this document will not reproduce well because of poor print quality

EDRS PRICE MF-$0.83 HC-$23.43 Plus Postage.
DESCRIPTORS Ability; Adult Basic Education; *Adults; *Annotated Bibliographies; Aptitude; Bibliographic Citations; Bibliographies; Cultural Factors; Decision Making Skills; Diagnostic Tests; Economic Factors; *Environmental Influences; *Evaluation Methods; Geography; *Individual Characteristics; Measurement; Models; Motivation; *Problem Solving; Reference Materials; Skill Development; Social Factors; Task Performance

ABSTRACT

This report includes a systematized annotated bibliography, arranged alphabetically by author, based on a search and critical analysis of the theoretical, descriptive, and research literature concerning adult problem solving. Each annotation provides bibliographic information plus a nonevaluative summary of the contents of the item. In addition, each annotation is coded by category to topics related to problem solving. A summary section itemizes significant points drawn from the literature analysis under the following major topic categories: (1) problem solving models and specific applications; (2) personal correlates of problem solving, i.e., motivational, aptitude, and personal traits; (3) environmental correlates of problem solving, i.e., cultural, economic and geographic, and societal; (4) evaluation of problem solving, i.e., diagnostic, aptitude, and ability measurement; measurement of problem solving and its components; measurement of personal and environmental factors affecting problem solving; and (5) materials for developing problem solving skills and strategies. The annotations are listed by number under topic categories. An appendix on selected problem solving materials is included. (Author/CSS)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED159429

Annotated Bibliography of Literature Related to Adult Problem Solving

(Preliminary Edition)

by

Zita M. Cantwell, Ph.D.
Brooklyn College of the City University of New York

FINAL REPORT

Project No. 300065-77-961-38; Grant No. C72280

New York State Education Department

Bureau of Special Continuing Education

July 1977

CE 017 851

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Joan Miller

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC) AND USERS OF THE ERIC SYSTEM."

001

THE UNIVERSITY OF THE STATE OF NEW YORK
THE STATE EDUCATION DEPARTMENT
ALBANY, NEW YORK 12234

ASSISTANT COMMISSIONER
FOR OCCUPATIONAL AND
CONTINUING EDUCATION

DIVISION OF CONTINUING EDUCATION
518: 474-8808

Final Evaluation Form
for
Special, Personnel Training, Research and Development Projects

Within 30 days of project
completion, please submit
5 copies of this report to:

Bureau of Special Continuing Education
New York State Education Department
Albany, New York 12234

Project No. 30-00-65(C77-961-38)

Project Title Annotated Bibliography of Literature Related to Adult Problem Solving.

Organization Brooklyn College of the City University of New York

Person Preparing Report Zita M. Cantwell, Ph.D.

Date July 18, 1977

Title VI of the Civil Rights Act of 1964 states: "No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance."

Title IX of the Education Amendments of 1972 states: "No person in the United States shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any education program or activity receiving Federal assistance..."

All Special Projects and Adult Education Personnel Training Projects funded by the Division of Continuing Education must be operated in compliance with these two titles.

Form CE2/76

TABLE OF CONTENTS

	Page
Acknowledgements	004
Abstract	005
Introduction	006
Summary	009
Annotations	021
List of Annotations by Category Code	431
Appendix	437

Acknowledgements

The following individuals contributed to the completion of this Report:

Ms. Mary DiGregorio and Mrs. Stephanie Schalk, research assistants, worked on the literature search, review, and annotation.

Mrs. Rachel Marcus worked on the implementation of the organizational scheme basic to the research and on the administrative details for the grant.

Mrs. Paula Murray typed the final manuscript.

Ms. Marilyn Scheinberg worked on the final bibliography check and proof reading.

ABSTRACT

This report includes a systematized annotated bibliography based on a search and critical analysis of the theoretical, descriptive, and research literature concerning adult problem solving. Each annotation provides bibliographic information plus a nonevaluative summary of the contents of the item. In addition, each annotation is coded by category to topics related to problem solving. A summary section itemizes significant points drawn from the literature analysis under the major topic categories: (1) Problem solving models and specific applications; (2) Personal correlates of problem solving, i.e., motivational, aptitude, and personal traits; (3) Environmental correlates of problem solving, i.e., cultural, economic and geographic, and societal; (4) Evaluation of problem solving, i.e., diagnostic, aptitude, and ability measurement; measurement of problem solving and its components; measurement of personal and environmental factors affecting problem solving; and (4) Materials for developing problem solving skills and strategies. The annotations are listed by number under topic categories. An appendix on selected problem solving materials is included.

Introduction

This annotated bibliography, requested and funded by the New York State Education Department, Bureau of Special Continuing Education, primarily includes selections based upon a review of the literature related to problem solving behavior in adult populations, with special reference to undereducated adult populations. The purpose of the review has been to identify important factors to be considered in designing programs to assist undereducated adults in the development of problem solving skills and strategies to be applied in everyday life tasks.

The time constraint (six months) under which this bibliography was completed placed limits on the amount of reading that could be done. The focus in selection has been on journal articles rather than on books, and on obtaining representative materials for each of the topics. Further, since there are excellent and detailed discussions of the nature of problem solving and its components available (e.g., Ausubel, 1968), that material is not repeated here. The reader is referred also to a recent book on adult development and learning (Knox, 1977).

Each annotation includes bibliographic data and a nonevaluative abstract of the contents of the selection. The annotations are keyed by code to the following topics (which had been selected in consultation with representatives of the New York State Education Department, Bureau of Special Continuing Education).

---

[1] Ausubel, D. P. Educational psychology. New York, N. Y.: Holt, 1968.

[2] Knox, A. B. Adult development and learning. San Francisco, Calif.: Jossey-Bass, 1977.

CODE	CATEGORY
PS	I. Problem Solving.
PSmo	A. Models of Problem Solving.
PSap	B. Applications of Models (identified by focus of study)
PSap(a)	1. Aspect of problem solving.
PSap(p)	2. Population or sample completing the task.
PSap(k)	3. Knowledge area of the task content.
PSap(t)	4. Techniques for and strategies of problem solving.
cPS	II. Correlates of Problem Solving.
cPSpr	A. Personal Correlates.
cPSpr(m)	1. Motivational traits.
cPSpr(a)	2. Aptitude traits.
cPSpr(s)	3. Personal traits.
cPSen	B. Environmental Correlates.
cPSen(c)	1. Cultural factors.
cPSen(e)	2. Economic and geographic factors.
cPSen(s)	3. Societal factors.
ePS	III. Evaluation of Problem Solving.
mPS	IV. Materials for Developing Problem Solving Skills and Strategies.

The following abbreviations appear in the annotations.

S of Ss	Subject or subjects.
E	Experimenter.
M & F	Male & Female.
ABE	Adult basic education.
CPE	Continuing professional education.

Ex	Experimental.
C	Control.
ANOVA & ANCOVA	Analysis of variance & analysis of covariance.

Summary

Problem solving by adults has not been the subject of many studies. There are even fewer studies exploring problem solving behavior in natural environmental settings. However, studies related to problem solving behavior are available. The sections which follow contain points drawn from the literature reviewed, arranged under major topic categories from the annotation outline. These points have been selected because they appear to have significance for the development of programs in problem solving for the undereducated adult. They are not the only points which can be made; they appear to be important ones to include in a summary list.

I. PS Problem Solving: models and specific applications.

1. Problem solving is concerned with perceived relationships. More than one theoretical view exists on problem solving (Ausubel, 1968). Problem solving can be described as one (the highest) of eight types of learning in a hierarchical structure which includes: signal, stimulus-response, chaining, verbal association, multiple discrimination, concept, principle, and problem solving (Gagné, 1972).

2. Learning of problem solving skills and strategies, which result in increasingly competent performances of everyday tasks, involves the integration of new and changed knowledge, skills, and attitudes, and the development of judgment.

3. While the development of problem solving skills and strategies is associated frequently with school work, this development actually is affected

---

[1] Ausubel, D. P. Educational psychology. New York, N. Y.: Holt, 1968.

[2] Gagné, R. M. The conditions of learning (Rev. ed.). New York, N. Y.: Holt, 1972.

more by incidental and informal learnings in connection with the performance of day-to-day tasks.

4. Two principal kinds of problem solving can be identified: trial-and-error and insight. Insightful problem solving can be a good index of transfer or generalizability of problem solving skills.

5. Cognitive structure (cognitive mapping) plays a key role in problem solving, especially in transfer. Programs designed to develop problem solving skills and strategies cannot ignore development of cognitive structures.

6. In general, the stages of problem solving can be described as (a) presence of a question or doubt; (b) identification of problem, goal, and gap to goal; (c) relating of problem to cognitive structure, activation of background of previously used solutions and experiences, and searching for new data which are adapted for present problem; (d) successive testing of several possible solutions, reformulation of problem, if needed; and (e) problem solution, refinement of solution, and incorporation of the useful solution into cognitive structure.

7. Successful problem solvers are distinguished from unsuccessful by these competencies: (a) Flounder less; are more decisive in selecting a starting point for problem solution. (b) Focus more directly on the problem to be solved; less on some irrelevant aspect of the problem. (c) Can better bring to bear on the problem the relevant knowledge they possess; see more clearly how to apply this knowledge and the implications of the application to the problem at hand; are less confused by "surface" changes in the problem. (d) Engage in a more active and vigorous process of search; approach less passive, superficial, impressionistic; tend to

apply solutions from previous problems less mechanically. (e) Are more careful and systematic in their approach; efforts less haphazard and less characterized by random and diffuse guesswork. (f) Tend more to follow through a line of reasoning to its logical conclusion; more persistent and less distractible in performance. (g) Express attitudes toward thinking a problem through that are more positive and less fatalistic. (h) Exhibit greater self-confidence in ability to solve problems; less discouraged by apparent complexity. (i) Approach problem solving more objectively and impersonally; influenced less by affective and subjective considerations. (j) Are able to overcome more easily the negative transfer effect of interference in the problem solving process.

8. Adults' orientation to learning tends to be problem centered. Problem solving is a way of thinking about many adult roles.

9. Undereducated adult is not less able to develop problem solving skills and strategies than adults, in general.

10. Recent findings about age and problem solving indicate that problem solving abilities do not deteriorate necessarily with advancing age.

11. Problem solving ability can be constrained by rigidity and inflexibility of thought.

12. Development of problem solving skills and strategies requires extensive practice in coping with problems of differing difficulty levels. Some of the practice problems should be unguided, but research indicates that cueing can facilitate development of problem solving abilities.

13. The concreteness (as opposed to abstractness) of the problem appears to be a significant factor in facilitating development of problem solving skills and strategies.

14. Knowledge is critical to problem solving.

15. Programs designed to assist adults in the development of skills and strategies in problem solving need to focus on (a) knowledge related to the problem area; (b) structures and strategies of problem solving in the problem area; and (c) general principles of problem solving.

IIA. cPSpr Personal Correlates of Problem Solving: motivational, aptitude, and personal traits.

1. Time perspective for the adult student is one of immediate, rather than of future, application of knowledge.

2. Recent studies have shown that, more critical than the factor of age in influencing adult problem solving performances and development of problem solving skills, are other personal factors such as physical health; physiological condition; level of activity, tension, alienation, trust, avoidance, withdrawal; wish to develop intellectually; self image as a literate person; feelings toward authority; flexibility of value system; internal versus external locus of control; and familiarity with the problem activity and its content.

3. Although adults tend to enlarge their collections of problem solving solutions and strategies with increasing age, they tend to have set types of responses designed to meet specific everyday life tasks and are unwilling to depart from these sets unless they can see advantages in adopting others. Influences which encourage stability (set) in performance are societal values, role expectations, personality traits, interests, activities, habits, and inertia.

4. Little data are available on relationships between styles of adult coping behaviors and problem solving strategies. However, some evidence from

studies with samples of undereducated adults indicates that once learned, a coping pattern tends to be repeated irrespective of its appropriateness to a changed environmental setting.

5. Motivation, for the adult learner, is usually goal directed, most frequently toward an occupational goal. Motivation, at one level, attracts the adult student to an educational program, but if the student does not "see" his needs being met by the program offered he tends to either plan self-instructional programs for himself or not participate at all in educational activities. Motivation to keep learning is as critical to completion of an educational program as motivation to enter. Therefore, each student must be able to perceive the relation between his unique needs and goals and what he is learning, e.g., of problem solving skills.

6. Survival needs, usually related to occupation, in some instances strong enough to overcome personal constraints such as fear of "school," anxiety, and poor self concept as a learner, drive the undereducated adult toward a learning program. Not only must the learning program make provision for enhancement of the adult learner's self concept and facilitate his development of internal control of the learning environment, it must provide also assistance so the student is able to translate the needs to realistic goals in terms of education and training, family and financial constraints, and occupational entry and promotion points.

7. Cognitive style appears to be related to adult learning, including learning of problem solving skills, but little research data are available. Cognitive style is an individual's typical form of information processing in perceiving, remembering, and thinking (including problem solving). Variability in behaviors reflective of cognitive style cluster around nine

dimensions (described by their polar behaviors): (a) tolerance versus intolerance of ambiguity; (b) reflectiveness versus impulsiveness; (c) constricted versus flexible control; (d) focusing versus scanning; (e) leveling versus sharpening; (f) complexity versus simplicity; (g) conceptual differentiation versus description; (h) analytic versus global; and (i) breadth versus narrowness of categorizing.

8. Cognitive factors, e.g., general ability, memory, learning ability, tend to be related to problem solving ability. Effectiveness of adult learning of problem solving skills varies with ability which is itself affected by personality factors and environmental factors, especially by extent of formal education. (Speed of response is the ability generally identified as declining most clearly through the adult years, beginning with the decade of the 20's.)

9. New learnings (skills, knowledge, and attitudes) can be stored by the adult with experiences and information already in memory. Learning activities can yield data to be added to cognitive structures or cognitive maps. Learning how to build effective structures or maps is itself a learning activity.

10. Little research has been completed on developmental changes in thinking, i.e., problem solving and critical thinking, during adulthood. The literature available does indicate that few individuals reach the formal operations stage. However, as Piaget points out, the experimental tasks usually used to assess level of formal operations probably are not appropriate, i.e., do not fall within the experiential range of many adults; experimental tasks need to be designed which reflect the experiential level of the individual.

11. Educational programs designed for adults should not be antithetical to the value systems of the group for which they are designed. Values are reflected in the immediate concerns, expressed or not, of adults. Insofar as values are related to program content, provision needs to be made to identify and respond to them.

IIB. cPSen Environmental Correlates of Problem Solving: cultural, economic, geographic, and societal.

1. Cognitive changes in the way adults think about selves and surroundings occur gradually and incidentally as a result of interactions with the environment. Changes are reflected in modifications in performances of family, occupational, and social roles.

2. Activities of adulthood and societal values tend to encourage set or stability in adult performance and to minimize change.

3. Adults obtain the most useful feedback on the extent of attainment of learning objectives, e.g., development of problem solving skills, in relation to competence of performance in natural environmental settings.

4. Readiness to learn problem solving skills in adults is oriented to developmental tasks of social roles.

5. Financial constraints limit many potential adult students' ability to participate in learning activities; this is especially true of the undereducated adult.

6. Adult experiences, including those of the undereducated adult, provide resources for learning. In addition, adults' approach to learning reflects previous experiences. However, extreme geographic isolation can affect problem solving performance through limiting experience.

7. Socioeconomic status appears to be related to the degree of internal

versus external locus of control in the adult learner. As reflected in the learning behavior of the undereducated adult, especially, the lower the socioeconomic status level (or the more isolated from the mainstream of the culture) the greater the external locus of control.

8. Learning and intellectual performance are modified by social change and status. Interrelationships can be observed between social, cultural, and economic circumstances and values, demands, constraints, as well as outlook, activities, and attitudes.

9. Specific competencies in which to practice problem solving skills vary from geographic area to geographic area.

10. The undereducated adult frequently has a mistrust and an awe of social agencies and their representatives, including educational agencies and teachers, as being outside his world and structure of values.

11. Aspects of general ability can increase throughout the life span. Crystallized intelligence (Gc) is an experientially oriented ability which generally reflects an individual's level of continuing interaction with his environment.

12. A substantial amount of informal learning, including problem solving, takes place during adulthood. Informal learning is enhanced or constrained by the quality of the environment in which the adult moves.

13. For undereducated adults, especially, any educational program should be planned to include counseling as well as instructional services. Economic, family, and personal constraints frequently make it difficult for the undereducated adult to participate in educational programs.

III. ePS Evaluation of Problem Solving: diagnostic, aptitude, and ability measurement; measurement of problem solving and its components;

measurement of personal and environmental factors affecting problem solving.

1. Any evaluation done of an adult learner must contribute to that learner's progress. The results of the evaluation are communicated to the learner in a meaningful way and he is given assistance in learning how to use the results of evaluation.

2. Evaluation and testing are not synonymous. Evaluation of an adult learner's performance can be made in a variety of ways, e.g., "on-th-job" performance.

3. The techniques as well as the content and tasks which have been used traditionally to measure aptitude and achievement, including problem solving, in younger learners are not necessarily appropriate for use with adult learners because of developmental and experiential differences.

4. Personality (e.g., anxiety) and experiential (e.g., lack of familiarity with test taking procedures) factors can make the use of traditional standardized testing procedures with adults inappropriate, or appropriate only after training in test taking procedures.

5. Self-evaluation procedures, e.g., self-administered diagnostic tests after a unit, have been used successfully with adult learners when the learner knows the purpose of the evaluation and understands how to use the results to improve problem solving skills.

6. Unobtrusive techniques can be used to advantage for evaluation of problem solving and related abilities as well as for evaluation of personal and environmental correlates of ability.

7. Content validation data must be available for tests designed to accompany problem solving learning units.

8. Validation data need to be available for published tests used with adult learners, especially those used with undereducated adults. A wide range and variety of published tests are used with adult learners because they "seem to work." Appropriate validity, reliability, and norms data for undereducated adult populations are not available for all these instruments.

9. Certain of the tests widely used with undereducated adult students have been found to be unreliable when studied with samples from this population.

10. Informal testing procedures can be used to advantage with the undereducated adult student.

11. Available tests provide inadequate estimates of learning ability for many of the competencies adult learners want to acquire. The most useful estimate of learning ability can be provided by trial learning of a small aspect of the topic, e.g., problem solving, with planned assistance and frequent feedback about learning achievement.

12. Screening procedures must be carefully designed to reflect both the needs and goals of the learner and the objectives of the educational program.

IV. mFS Materials for Developing Problem Solving Skills and Strategies.

1. "Materials" can be described as devices (formal or informal) that assist learners in the development of a particular skill or set of skills or assist the teacher in planning a structure within which the learner can progress.

2. The task of selecting and/or developing materials well is difficult.

3. Broad guides for the selection of materials can be found in the goals of the adult student, e.g., materials for the undereducated adult student need to be practical, relevant to everyday situations, suited to individ-

ual student abilities, needs, interests, age, sex, level of education, reading level, opportunities for use.

4. Broad guides for the selection of materials can be found also in the goals of the educational program, including the stage of learning to be emphasized, e.g., problem solving. Problem solving is concerned with ability to perceive relationships. Skills in problem solving are developed and enter the learner's repertoire of behaviors through realistic practice; materials should afford this practice in specific subject matter, e.g., consumer education.

5. No one book or set of learning exercises can be used beneficaliy by every learner in an educational program. Further, it is highly improbable that total reliance on commercial materials can be the best course.

6. Programmed instruction techniques (including programs for computer-assisted instruction use) have great promise; value includes help in developing skills of self-evaluation and provision of greater opportunities for individualization of instruction. Some programs are available which are adequate for and interesting to the adult student. However, further study and development of programmed materials is needed.

7. A wide variety of informal materials, e.g., newspapers, telephone directories, tax forms, household objects, are available and can be used effectively for instruction.

8. Individually developed "learning packets" (or "learning kits") have been used successfully in problem solving instruction. They include material to facilitate transfer as well as material for self-evaluation.

9. Effective learning materials assist the adult learner (a) maintain and/or develop motivation through interest; (b) understand the major parts

and the details of a subject area unit and how the details are organized around the major parts, that is, understand and apply in practice techniques for structuring what is known so that it can be recalled easily and be ready for use; (c) relate new information to present knowledge; (d) persist in the learning task; (e) obtain sufficient feedback and practice; (f) develop skills of self-evaluation; (g) move at optimum individual pace; (h) transfer skills to situations where they are to be applied.

10. Materials are to (a) emphasize individual abilities; (b) be environmentally relevant: cultural, social, economic, and geographic; (c) clarify subject matter structure; (d) allow for individual pacing; (e) include varied, realistic, and practical items of differing difficulty level; and (f) allow for provision of feedback.

11. Reference to selected materials is made in this document. These represent types of materials which can be used in problem solving instruction with undereducated adult students, given the relevance of the materials to the goals and needs of the students and the objectives of the educational program.

12. The way in which information is presented for problem solving, e.g., short sentences, flow chart, tables, depends upon a number of factors. These factors include the level of complexity of the information as well as characteristics of the learner.

001. mPS

Abt, C. C. Serious games. New York: Viking Press, 1970

Games are effective training and teaching devices because they are highly motivating and can communicate effectively concepts and facts about many subjects. Ways in which games can be used as instructional, informational, and educational tools are discussed. Uses of games are cited: improving education, guidance about occupational choice and training, solving problems and decision making in the physical and social sciences and in government and industry. Directions are given for designing games for particular use. Data are presented on cost effectiveness of games.

002. cPSpr(a); ePS

Acland, H. If reading scores are irrelevant, do we have anything better? Educational Technology, 1976, 16(7), 25-29

Evidence suggests that different people cope with different (rather than universal) problems of day-to-day living. Therefore, failure on competency tests of basic skills may not mean an individual is hindered by lack of coping skills, but rather that he lacks a skill which he may not need. Further, different people have various ways of dealing with the same problem. Unorthodox ways may be less efficient but should not be so prejudged. Suggests that competency tests can be improved if two assumptions on which they now rest are tested: (1) people have problems in

002. (cont'd)

common, and (2) common problems have common solutions. Author regards Adult Performance Level Functional Literacy Test better researched and thought out more carefully than other tests designed for the same purpose.

003. mPS

Adams, G. H. Individualized instruction (a bibliography with abstracts). Springfield, Va.: National Technical Information Service, 1977. (NTIS No. NTIS/PS-77/0018/0ST)

004. mPS.

Adams, G. H. Individualized instruction (a bibliography with abstracts). Springfield, Va.: National Technical Information Service, 1976. (NTIS No. NTIS/PS-76/0017/4ST)

005. mPS.

Adams, G. H. Individualized instruction (a bibliography with abstracts). Springfield, Va.: National Technical Information Service, 1975. (NTIS No. NTIS/PS-75/195/8ST)

Three annual bibliographies which include references on strategies and techniques for, as well as personal correlates related to, the adaption of instructional activities in various fields of study to individual learner needs. The fields of study cover, for example, radiography, welding, security police, flight control, library occupations, apprenticeship, inventory management. Methodological issues include tutorial method, branching

005. (cont'd)

tests, criteria for stepping, psychological processes, programmed instruction, self-paced learning systems. Computer aided instruction is not included.

006. mPS

A design for library services for the Rough Rock community. St. Paul, Minn.: National Indian Education Association, 1972. (ERIC Document Reproduction Service No. ED 066 193)

007. mPS

A design for library services for the Standing Rock Sioux tribe. St. Paul, Minn.: National Indian Education Association, 1972. (ERIC Document Reproduction Service No. ED 066 191)

Detailed description of the procedures related to the organization and development of a model informational demonstration resource center designed to meet the needs of the community: individuals and groups. Design has potential usefulness as tool to abet adult learning, especially problem solving.

008. PSmo; mPS

Adkins, W. R. Life skills education for adult learners. Adult Leadership. 1973, 22(2), 55-58.

Description of the Adkins Life Skills Education Model designed to be used with disadvantaged adolescents and adults for the

008. (cont'd)

purpose of assisting the learner in the development of skills for coping with problems in living, as well as skills in basic reading, math., and vocational courses. Model makes use of a problem-centered structured inquiry model which includes these components: (1) identification and collection of problems (to be used in developing class syllabus); (2)identification of priority units and lessons. The four stage problem solving activity covers (1) classroom encounter with selected problem; i. e., frame problem, stimulate emotional arousal, focus attention, share ideas; (2) student statement of what they know about problem based on own experiences; (3) student exploration of other sources of knowledge, tasks assigned for obtaining additional information; (4) provision of many simulated applications for practice in solving problem.

009. PSmo; PSap(p)

Adkins, W. R., & Rosenberg, S. A design for action research at Project TRY. Brooklyn, N. Y.: Training Resources for Youth, Inc., 1967. (ERIC Document Reproduction Service No. ED 018 524)

Descriptive outline of a demonstration-research training program which includes trade training, life skills education, recreation, job placement, and general posttraining followup.

009. (cont'd)

This special youth training project is designed to provide a comprehensive educational environment in which disadvantaged youth can (1) learn skills which will enable them to move into the mainstream of an "achievement oriented" society and (2) participate in programs designed to produce positive changes in attitudes and behaviors. Basic program developed around Thought-Action Consequence (TAC) Model which focuses on facilitating individual's capacity to cope with problems of life as working adult. Curriculum deals with major problems related to self, careers, leisure, home and family, and community; curriculum implemented in group and individual counseling and discussion groups; curriculum emphasizes (1) problem as opposed to subject-centered approach, (2) planned community and classroom experiences as opposed to traditional textbook approaches, and (3) broadened role for educator which integrates teaching and counseling activities. Disadvantaged, out-of-school, unemployed or underemployed males (N=600; 17 to 21 years; 70% Black, 15% Puerto Rican, and 15% white) participated in the program.

010. mPS

Adult basic education: A bibliography of materials. Lansing, Michigan: Michigan State Dept. of Education, 1969. (ERIC Document Reproduction Service No. ED 044 599)

010. (cont'd)

Annotated listing of curriculum materials and media which are available to assist ABE students. Items are arranged alphabetically by author under the following headings: reading, spelling and writing skills, science, social studies, administration of adult programs, the teacher in adult programs, testing and evaluation, periodicals and special publications, audiovisual materials, and adult high school. (Publishers and addresses furnished.)

011. mPS

Adult basic education in basic reading, lessons 1-10. Danbury, Conn.: Danbury Public Schools, 1966. (ERIC Document Reproduction Service No. ED 012 835)

Readings of graded difficulty but high adult interest level are included in this curriculum and teaching guide. Accompanying exercises, some self-instructional, are designed to assist adult learner in the development of auditory and visual discrimination and the association of sound, sight, and meaning. Instructional aides and teaching procedures discussed.

012. mPS

Adult basic education in New Mexico: Personal growth curriculum. Portales, N. Mex.: Eastern New Mexico University & Santa Fe: New Mexico State Department of Education, 1970. (ERIC Document Reproduction Service No. ED 051 499)

012. (cont'd)

Workbook designed to foster personal growth on the part of ABE students covers material related to five basic knowledge areas: money management, world of work, citizenship and government, health education, and family life.

013. ePS; mPS

Adult basic education pilot project. Austin, Texas: Texas University, Extension Teaching and Field Service Bureau, 1969. (ERIC Document Reproduction Service No. ED 030 829)

Description of ABE program in the Extension Division of the University of Texas. Wide Range Achievement Test (WRAT), Standard Oral Reading Paragraph Test (SORT), and Adult Basic Learning Exam (ABLE) used for placement. Program makes extensive use of media, e. g., Mott Basic Language Skills Series.

014. PSap(t)

Adult basic education project: Career centers program. Rio Piedras: University Puerto Rico, Division of Extension and Continuing Education, 1974. (ERIC Document Reproduction Service No. ED 105 275)

A special ABE program using a systems approach was designed to reduce educational and occupational disadvantages of unemployed and underemployed Puerto Rican adults aged 16 to 60 years, with grade level attainment of 0 to 12 years. Three areas received

014. (cont'd)

special attention: staff development, curriculum development, and student participation. Reading program was specific program evaluated. Reading curriculum centered around language arts skills with content based on occupational and everyday concepts. The program was designed to provide instructional and support services. Materials developed included placement tests, academic and occupational assessment, program evaluation forms, and lesson plans. Of the 86 participants, 54 developed basic reading skills, 72% advanced in reading grade level from 1 to 3 years (average, 2 years), 17% did not advance in grade level but improved academic and occupational skills; of 37 unemployed, 60% obtained employment. Recommendations: educational programs for adults be extended over fairly long time periods; demonstration projects be developed in different phases: first phase concerned with recruitment and training of staff followed by field testing of materials to be used.

015. ePS; mPS

Adult basic education: Students' progress guide. Experimental study for evaluation and proposed revision. Austin, Texas: Texas Education Agency, 1971. (ERIC Document Reproduction Service No. ED 054 442)

Adult Students' Guide is designed to maintain continuous evaluation of ABE student. Guide includes survey of five ABE

015. (cont'd)

curriculum areas, evaluation questionnaire, general student information and attendance record, skill tests - "Functional Context Learning", and skills and concepts check list.

016. PSap(t); ePS; mPS

Adventure on a Blue Marble: Approaches to teaching intercultural understanding. Atlanta, Georgia: Southern Association of Colleges and Schools, 1969. (ERIC Document Reproduction Service No. ED 040 107)

Suggested approaches for teacher use in developing programs and procedures related to intercultural education and understanding that can satisfy student (adults, in general) needs and abilities. Topics covered are (1) basic course objectives; (2) behavioral objectives; (3) concept teaching using inductive and deductive methods; (4) instructional methods: inquiry training, problem solving, attitude training, unit approach, case study with role playing; (5) interdisciplinary activities; and (6) evaluation techniques. Problem solving described as three-step process of (1) extracting information from external sources, (2) retrieving information from memory storage, and (3) combining operations from both sources. Training in problem solving involves (1) indentification of major concepts and principles to be taught, (2) teaching these concepts and princi-

016. (cont'd)

ples either inductively or deductively and providing practice in discriminating between instances and noninstances of each generalization, and (3) providing opportunities for each student to use each concept and generalization. Bibliography of materials and sources included.

017. PSap(t); ePS; mPS

A guide for curriculum planning: Basic education for adults. Austin, Texas: Texas Education Agency, 1968. (ERIC Document Reproduction Service No. ED 028 353)

Procedures and materials for assisting adults in development of skills in listening, speaking, reading, writing, and spelling, as well as evaluation forms, individual progress record, and outline of GED refresher course are included in this report.

018. mPS

A guide for establishing a learning laboratory. White Plains, New York: White Plains Public Schools, 1969 (ERIC Document Reproduction Service No. ED 030 825)

Guidelines for the establishment of an ABE learning laboratory with emphasis on reading development using programmed and self-directed learning materials, audiovisual aides, as well as guidelines for the selection of instructional materials and testing and placement are presented.

019. cPSpr(m); cPSpr(s)

AIM: apperception interception method: an exemplary program from international experience. New York, New York: World Education, Inc., 1975. (ERIC Document Reproduction Service No. ED 117 501)

Description of apperception-interception method (AIM) aimed at addressing learners' (i. e., adults--poor, unskilled, semi-skilled, service job workers, undereducated, and disadvantaged) motivational problems. Begin with investigation of world of learner by means of group and individual interviews using photographs depicting local community life, as well as problem areas and emotional themes of concern. Series of 4-page discussion units developed which reflect problems and themes. Each unit contains a photograph accompanied by a short open-ended narrative. Learners first relate own feelings to photograph (apperception). In the group discussion which follows, a particular coping problem projected in narrative is explored (interaction). AIM is designed not to teach but rather to assist learner in development of self-confidence, ability to express his concerns, learning of problem solving skills relevant to his life tasks; to stimulate awareness on part of learner and to foster group interaction.

020. PSmo; PSap(a); PSap(t)

Aker, G. F., & Hanberry, G. C. (Eds.) Strategies for decision-making in adult basic education. Tallahassee, Florida:

020. (cont'd)

Florida State University, 1972. (ERIC Document Reproduction Service No. ED 064 578)

Description of a training institute designed to improve decision-making skills of participants; in this instance, administrators of ABE programs. Two models are presented and discussed: (1) training model, "Learning by Objectives", and (2) "An Approach to Decision-Making". Evaluation data on institute effectiveness are included.

021. PSap(a); PSap(t); mPS

Aker, G. F.,& Schroeder, W. L. (Eds.). Resource development and utilization in adult basic education. Tallahassee, Florida: Florida State University, Department of Adult Education, 1970. (ERIC Document Reproduction Service No. ED 061 482)

An institute program designed to foster the development of skills and provide opportunities for practice in developing plans and strategies of action to maximize the effective use of resources in adult basic education (ABE). Program designed for ABE directors and participants at the literacy training level. The major objectives of the institute were (1) enhancement of "creative" capabilities of participants; (2) practice in skills of communication, perceptual, and problem solving; and (3) enactment of innovative ideas to help overcome problems inhibiting effectiveness of ABE. Sixteen categories of problems related to ABE literacy training discussed.

022. ePS

Alford, H. J. Assessment and evaluation in continuing education: Four quick and dirty devices. Adult Leadership, 1974, 22(10), 324-326.

A description of four assessment and evaluation devices designed for continuing education students (part of Educational Testing Services' Intensive Resident Course program). The devices are (1) participant daily diaries: participant records (Cassette supplied) what happened and how he feels about it: (2) individual request forms: participant communicates request for additional information, discussion of specific problems, etc., to which teacher responds within short time limit; (3) end of course performance contract: written statement by participant indicating new concepts learned and how these will be applied to day-to-day problems; and (4) open-ended forced-choice evaluation questionnaire: course evaluation.

023. mPS

Allen, L. E. et al. The virtues of nonsimulation games. Simulation and Games, 1970, 1(3), 319-326.

Detailed discussion of the development and use of nonsimulation games to assist problem solving learning is presented.

024. ePS

Allen, R. M. There is an alternative to the IQ. Journal of Personality Assessment, 1975, 39(4), 377-380

024. (cont'd)

Individuals perceive, organize, and respond to their environments in unique ways. A more realistic and "human" means of understanding individual behavior or assessing individual abilities is to plan assessments which view each individual's functioning with both familiar and unfamiliar problems in terms of the level of his level of cognitive development. (This article selects examples related to children; the same approach can be used with adults.)

025. PSap(a); cPSpr(s)

Alpaugh, P. K., Renner, U. J., & Birren, J. E. Age and creativity: Implications for education and teachers. Educational Gerontology, 1976, 1(1), 17-40

Analytic review of the literature on cognitive aspects of creativity and aging are organized to present information in a manner relevant to the development of adult education programs to foster creativity. Views on creativity (either as divergent or convergent cognitive style) result in different types of research, findings, educational programs. Individual styles of thinking, for example, convergent or divergent, appear to be related to types of education. Overall, creativity appears to decline with increasing age. Suggestions for adult programs to foster creativity in adults are given.

026. cPSpr(a); cPSpr(s)

Alpaugh, P. K., & Birren, J. E. Are there sex differences in creativity across the adult life span? Human Development, 1975, 18(6), 461-465

Study of sex differences among young, middle aged, and older adults in creative (divergent) problem solving and in performance for complex visual figures as well as study of degree of sex role identification in creativity. 111 male and female teachers, aged 20 to 83 years, participated in the study. Each S completed 7 tests of creativity (e. g., Guilford, Barron-Welsh), 2 intelligence measures (WAIS-information and similarities), and the MMPI M/F Scale. Results indicated no evidence of sex differences or of perceived sex role differences in creativity. However, while M Ss appeared to be superior on figural tests; no sex differences were apparent on semantic tests.

027. cPSpr(m)

Ampene, E. K. Teaching styles in adult basic education. Literacy Discussion, 1973, 4(3), 191-205.

Three theoretical models of behavior are applied to an analysis of teaching styles used with illiterate adult students. The three models are: nomothetic, ideographic, and transactional. Author states that adult students appreciate having interests acknowledged but expect a teacher to be more program than student oriented in structuring a basic education course.

028. mPS

An annotated bibliography of adult basic education and related library materials. Austin, Texas: University of Texas (Austin), 1972. (ERIC Document Reproduction Service No. ED 069 279)

Systematic presentation of books, audio-visual materials, and games suitable for use by or with adult basic education students. Some of the topic areas covered are: (1) consumer education, (2) games for second language learning, (3) language instruction records, and (4) reading materials (books and records for reading levels 2nd through 4th grade). Each kit in series contains 3 units of short stories with 20 books in each.

029. cPSpr(a); cPSpr(s)

Anders, T. R., Fozard, J. L., & Lillyquist, T. D. Effects of age upon retrieval from short-term memory. Developmental Psychology, 1972, 6(2), 214-217.

Study of the patterns, by age group, of the characteristics (depth, order, speed) of a retrieval search from short-term memory. 30 adults were assigned to 1 of 3 age groups: young adult, middle aged, older adult, of 10 Ss each. Ss completed a memory for digits task. Retrieval search from short-term memory can be described as exhaustive, serial, and fast. In addition, analysis of data indicates that the young adult and middle aged Ss were significantly faster than the older adults

029. (cont'd)

in task performance. Older Ss have greatest difficulties on most paced tasks, tasks which demanded constant switching of attention, and tasks which required frequent change of set.

030. PSap(t); cPSpr(a); mPS

Anderson, H. O. An analysis of a method for improving problem-solving skills possessed by college students preparing to pursue science teaching as a career. Bloomington: Indiana University, 1966. (ERIC Document Reproduction Service No. ED 020 123)

An experiment which analyzed the effectiveness of a teaching method developed to improve prospective science teachers' scientific problem solving ability. Also investigated the relationship between problem solving skills and the Ss' scientific background, critical thinking ability (as measured by the Watson Glaser Test of Critical Thinking), and achievement (as measured by g.p.a.). While there was no significant improvement in problem solving ability after seven periods of problem solving instruction, attitude toward problem solving did improve after instruction. Reading ability and critical thinking ability were important factors in determining Ss' success on problems presented; Ss' achievement was not an important factor.

031. PSap(t)

Anderson, P. H. The effect of the case study method on problem solving (Doctoral dissertation, University of Minnesota, 1975). Dissertation Abstracts International, 1975, 36, 2302A. (University Microfilm No. 75-21,110)

Study of the relationship of case method of instruction to development of analytic problem solving skills and of group discussion process to development of problem solving skills in a case setting. Performances of two groups of business school students, one trained using case method and group discussion; the other, not, were compared. Results indicated that the case study method did improve a S's analytical problem solving skills. General support was found for the group discussion process. Further research is needed to improve individual S's utilization of group resources.

032. ePS

Andrew, B. J. A methodology of the development of examinations to assess the proficiency of health care professions. New York: Carnegie Corp.; New Brunswick, N. J.: Robert Wood Johnson Foundation, 1973. (ERIC Document Reproduction Service No. ED 084 280)

Illustration of the application of the task inventory methodology to the development of evaluation instruments designed to

032. (cont'd)

assess competence in an area of training. General steps in the process include: identification of functions within a specified job category; organization of functions under components of clinical problem-solving process; assignment of priority ratings to functions; and, for functions with high priority ratings, identification of order of importance as determined by frequency of occurrence and specification of knowledge and skills components of each function.

033. PSmo; cPSpr(m), ePS; mPS

An institute for teachers and teacher-trainers in adult basic education of urban adults: Final report. Jefferson City, Mo.: Lincoln University, 1972. (ERIC Document Reproduction Service No. ED 099 633)

Special educational activities for teaching undereducated adults in urban communities include (1) strategies for recruitment, motivation, and retention; (2) assessment of ABE students, focus on TABLE and ABLE tests, culture free tests (including a culture free ABE entrance exam.), TAT, and informal test procedures--for example, reading; and (3) three models related to a 6-step problem solving procedure for ABE program construction; basic steps: (a) identify problems, (b) state purpose and objectives for attacking problem, (c) gather pertinent information, (d) arrive at possible solutions, (e) reach decision on solution, and (f) plan and carry out the solution.

034. PSap(a)

Anthony, W. S. Working backward and working forward in problem solving. British Journal of Psychology, 1966, 57, 53-59.

A study of effectiveness of forward (from problem to goal) and backward (from goal to problem) problem solving behaviors and of flexibility of response to reversals in direction of problem solving behaviors exhibited by 20 men and women (college students). The Ss in two groups, worked either on 5 "forward" problem solving tasks followed by a reversal task or on 5 "backward" problem solving tasks followed by a reversal task. Results indicated that Ss often changed direction of work in mid-problem; trial and error behaviors appears to both directions of work; on their own, 16 of the 20 Ss worked "forward" in solving problems; Ss appeared able to respond flexibly, i. e., in the correct direction, on reversal tasks.

035. cPSen(s)

Apps, J. W. Tomorrow's adult education-some thoughts and questions. Adult Education, 1972, 22(3), 218-226.

Adult educators have two roles: (1) helping individuals make psychological adjustments to their social conditions and environments, and (2) helping individuals change social conditions and environments. Both roles require that adult educators provide opportunities for adults to develop problem

035. (cont'd)

solving skills: the former, through problem solving training incorporated in "coping education;" the latter, through training incorporated in "action education."

036. cPSpr(m)

Apt. P. H. Adult learners and higher education: A study of interests and needs in rural Iowa. Dissertation Abstracts International, 1976, 36(10), 6423-A. (University Microfilm No. 76-9173)

Questionnaire survey designed to study interests and needs of adults (N=506) from rural households on selected issues related to participation in higher education: level of reasons for interest in additional education, content area of interest, preferred methods and locations for learning, cost constraints, higher education services desired, sources of information about education, interest in credits, and degree. Data were obtained on selected characteristics of adult respondents. Major factors influencing adults' decisions to participate in continuing education appeared to be self-development and career goal factors, and affective and situational barrier factors.

037. PS; cPSpr(s)

Arenberg, D. Cognition and aging: Verbal learning, memory and problem solving. In C. Eisdorfer & M. P. Lawton (Eds.), The psychology of adult development and aging. Washington,

037. (cont'd)

D. C.: American Psychological Association, 1973.
Pp. 74-97.

Review of recent representative studies, with adult populations, on verbal learning, memory, and problem solving in the light of cognition and learning. Capacity for developing problem solving skills holds up through adulthood although some evidence indicates decrease in rate of performance. In research on pacing, associative strength, retroaction, retention after learning, memory, and problem solving adult Ss appear to perform best under individualized conditions.

038. PSap(a); PSap(p): cPSpr(s)

Arenberg, D. Concept problem solving in young and old adults.
Journal of Gerontology, 1968, 23, 279-282.

Study of the relation between age and performance on concept-identification problems for the purpose of determining whether age differences exist in reasoning ability by type of problem, and ability to handle negative and redundant information. Two groups of men, 17 to 22 years and 60 to 77 years, volunteered to participate in the study. The performances of the younger group of Ss were superior to those of the older group, the younger group made fewer errors than the older group when handling negative or reduntant information. Groups were not equated for ability.

039. PSap(a); PSap(p); cPSpr(s)

Arenberg, D. Anticipation interval and age differences in verbal learning. Journal of Abnormal Psychology, 1965. 70, 419-425.

Two ANOVA experiments investigated the interaction among pacing, age, and level of ability (as measured by the WAIS) in verbal problem solving for young and old males. The stimulus consisted of two consonants and the response was a two syllable adjective. The older fast paced group had the highest error rate of all groups, followed by the older slow paced group, the younger slow paced group, and the younger fast paced group. The self paced performance of the fast group was more like its own paced performance than like the self paced scores of the slow group. These results were consistent with those for the lower ability level Ss.

040. PS; PSap(k)

A research and development project to design a system and supporting materials, to provide adult performance level in four major sub-areas for adult basic education. Austin, Texas: Texas Education Agency, Division of Adult and Continuing Education, 1972. (ERIC Document Reproduction Service No. ED 101 099)

Report on the Adult Performance Level (APL) project which includes objectives and tasks assigned to each of the nine general areas in which minimally performing adults must be

040. (cont'd)

able to function, i. e., the six general knowledge areas of occupational knowledge, consumer economics, health, community resources, government and law, and transportation, as well as the three basic skills areas of communication skills, problem solving techniques, and interpersonal dynamics.

041. PSmo; PSap(a)

Argyris, C. Theories of action that inhibit individual learning. American Psychologist, 1976, 31(9), 638-654.

The necessity of learning double loop problem solving, i. e., discovering, producing, and generalizing, to resolve critical day-to-day problems, as well as the possibility that adults may require reeducation in order to double loop learn is discussed. Adult learners evidence a consistent unawareness that their actions are counterproductive to learning goals, and cannot discover the causes of their problems nor invent new solutions. People tend to use control and deception which consequently leads to less openness and ineffective problem solving. Double loop problem solving cannot be learned by being immersed in structures that require and encourage such behavior if they do not hold such theories in use. The primary focus in leadership education at the espoused level creates the risks that educators are in situations which help them miss the incongrueties between espoused

041. (cont'd)

theory and theories in use, and are unaware of the capacity that people have for double loop learning.

042. cPSen

Arkava, Morton L. A sociology of impoverished life styles. Heuristics of adult education: Courses of study for professional preparation of educators of adults. Boulder, Colorado: Colorado University, 1970. (ERIC Document Reproduction Service No. ED 060 403)

Content focuses on (1) factors in poverty and (2) factors contributing to the maintenance of a different culture for the impoverished for the purpose of (1) fostering an understanding of the impoverished in terms of current sociological theories and relating theory to problem solution, (2) fostering an active appreciation of the impoverished, and (3) suggesting specific strategies directed at a reduction of the impact of poverty on the individual. Relation of these constructs to the need of the impoverished individual to develop competency for solving problems in daily tasks if poverty impact is to be reduced.

043. cPSpr(a)

Arlin, P. K. Cognitive development in adulthood: A fifth stage: Developmental Psychology, 1975 11(5), 602-606.

Research study in which 60 F college seniors participated.

043. (cont'd)

Study of the hypothesis that Piaget's formal operations stage is actually two stages: (1) problem solving stage, and (2) problem finding stage (i. e., attainment of this stage demonstrated by ability to evaluate problem situations). Experimental study, in which 60 F college seniors participated, provided data to support the existence of two separate abilities: problem solving and problem identification.

044. PSap(t)

Arnold, M. F., et. al. Health program and implementation through pertinent administrative and education uses. San Francisco, Cal.: American Public Health Assoc., 1966. (ERIC Document Reproduction Service No. ED 012 431)

Description of the application of the Program Evaluation and Review Technique (PERT) as a problem solving technique useful in continuing education programs. Specific illustrations in public health programs. (Available from Continuing Education Program, Western Regional Office, American Public Health Association, 655 Sutter Street (Room 201), San Francisco, California 94102).

045. mPS

A self-help program for one parent households. Washington,

045. (cont'd)

D. C.: Social and Rehabilitation Service, 1971. (NTIS No. PB-235 894/3)

Description of a special adult education program which provided basic education, clerical skills training, and high school equivalency training for welfare mothers. Program participants performed better than a group of similar adults taking a regular secretarial training program against the criteria of obtaining Civil Service ratings, jobs, and high school equivalency degrees. Program included programmed instruction and an incentive system, and made day care service available for participants' children.

046. PSap(t); cPSpr(a); mPS

Asher, J. J. The total physical response method for second language learning. San Jose, Calif.: San Jose State College, 1968. (NTIS no. AD 674 868)

An experimental study designed to evaluate the effectiveness of the Total Physical Response Method as a technique for learning a second language by adults and children; specifically, for this study, learning to understand spoken Russian. Results indicated that Ss who learned under the Total Physical Response Method retained significantly more than control Ss and that the facilitating effect occurred during performance rather than training. Adult Ss did significantly better than

046. (cont'd)

children in listening comprehension. Attempts to acquire listening and speaking language skills simultaneously caused a significant decrease in the comprehension of the language.

047. cPSpr(a)

Asher, J. J., & Price, B. S. The learning strategy of the total physical response: Some age differences. Child Development, 1967, 38(4), 1220-1227.

An experiment comparing the listening comprehension for various complexities of the Russian language among children, adolescents, and college adults used both a physical response and a passive imagining response to a taped command. Results indicated that the adults were superior to children of all age groups. The youngest group of children had the poorest retention, while the two older groups of children were intermediate between the adults and the youngest children. E inferred that when adults and children learn a second language under the same conditions, adults are superior with regard to listening fluency.

048. mPS

A total system approach attacking the educational problems of the illiterate Spanish-surnamed adults. Albuquerque, New Mexico: Southwestern Cooperative Educational Laboratory,

048. (cont'd)

1969. (ERIC Document Reproduction Service No. ED 060 405) Description of a basic learning program designed for ABE non-English-speaking, Spanish-speaking students. Detail on media used (including mobile "classroom") and program delivery system.

049. PSmo

Atwood, M. E., & Polson, P. G. A process model for water jug problems. Cognitive Psychology, 1976, 8(2), 191-216. Two experiments concerned with the development of a model for the water jug task in which a S is asked to find a sequence of moves which produce a specified amount of water in each jug, evaluated the means-end and move selection heuristics assumed by the model, and tested its predictions regarding the determination of problem difficulty. A 3-stage process model incorporating g.p.s.-like (generality and problem solving), means-ends heuristics and utilization of short and long term memory accounted for differences across problems and S performance details. The model predicts relative difficulties of problems and adequately describes the overall behavior of Ss while solving a given problem. (Reference: Ernst, G. W. and Newell, A. GPS: A case study in generality and problem solving. New York: Academic Press, 1969.)

050. ePS

Babad, E., & Budoff, M. Sensitivity and validity of learning potential measurement in three levels of ability. Cambridge, Mass.: Research Institute for Educational Problems, 1973. (ERIC Document Reproduction Service No. ED 079 373)

Learning potential (LP) paradigm tests reasoning tasks in a test-coach-test sequence that is designed to compensate for the "absence of spontaneous acquisition" by low socioeconomic status Ss. In learning potential (LP) tests, ability is measured by repeated administrations of reasoning tasks, interspersed with education in problem-relevant strategies. Problems on this series of LP tests fall within Jensen's Level II category (conceptual learning). Ref.: Jensen, A. R. How much can we boost IQ and scholastic achievement? Harvard Educational Review, 1969, 39, 1-123. (Ed.:LP tests have been designed for and validated on samples of youngsters in grades 3, 4, and 6. The construct basic to LP tests appears to have value for adaptation to ABE learning situations.)

051. PSap(t); cPSpr(s)

Bailie, R. C., & Wales, C. E. PRIDE, A new approach to experimental learning. Engineering Education, 1975, 65(5), 398-402.

Description of and evaluation of a program incorporating

051. (cont'd)

sensitivity and self-actualization needs, and small group attack on problems as opposed to masses of information, approach examined the performance of freshman engineering students before and after the adoption of "PRIDE" and compared their performances with those of other students in engineering. PRIDE participants improved performances in all classes, and were much better able to handle open-ended problems and defend solutions than previous classes. PRIDE participants experienced more self-assurance, were better able to express themselves, and had more job offers than those not in the program. The author points out that actively applying knowledge and seeking solutions to problems will result in better educated and intellectually matured students. Communication skill, lab. experience, and independent learning are emphasized.

052. cPSpr(m); cPSpr(a); cPSpr(s)

Ball, S. J. et al. Correspondence study evaluation project. Stage 1. Seattle: University of Washington, 1966. (ERIC Document Reproduction Service No. ED 010 862)

Questionnaire survey of correspondence students which yielded a descriptive analysis of this population of students in terms of relevant individual and social characteristics and correlated some of these variables with completion or noncompletion

052. (cont'd)

of courses. Variables are: age, sex, occupation, level of education, reason for enrolling in course, form of financial support, length of time to complete course, grade, educational attendance history. (Copy of questionnaire plus description of items included.)

053. ePS

Baltes, P. B., Nesselroade, J. R., Shaie, K. W. & Labouvie, E. W. On the dilemma of regression effects in examining ability-level-related differentials in ontogenetic patterns of intelligence. Developmental Psychology, 1972, 6(1), 78-84.

Consideration of statistical regression effects shown to affect results of longitudinal developmental studies significantly which can serve as one basis for guidelines to the interpretation of data from such studies and their implementation in discussions directed toward the development of educational programs for adults.

054. cPSpr; mPS

Barkley, W. D., & Dickinson, G. The design and evaluation of a rural land using planning simulation game. Adult Education, 1974, 24(4), 280-292.

A field study designed to evaluate the effectiveness of a simulation game designed to teach adults principles for

054. (cont'd)

effective land use planning and direct their development of competencies needed to apply these principles. Analysis of pre- and posttest results indicated that a significant negative relationship existed between number of acres held and attitudes toward land planning; amount of education was related to ability to differentiate between effective and noneffective uses of specified types of land. The games tended to be viewed by the Ss as entertainment. A fatigue factor appeared to cut attention.

055. PSap(t); cPSpr(a)

Barr, J. S. A problem-solving curriculum design in physical therapy (Doctoral dissertation, University of North Carolina, 1975). Dissertation Abstracts International, 1975, 36(6), 3345A. (University Microfilms No. 75-29, 004)

Problem solving curriculum design in physical therapy for adults included a rationale, goals and organizing elements, selection of organizing centers, learning activities, instructional strategies, and an evaluation scheme. Design advantages were the process simulation used by physical therapists for problem solving, integration of content with application, an emphasis on problems frequently dealt with by physical therapists, the facilitation of problem identification in the

055. (cont'd)

patient, the development and application of cognitive, affective, and psychomotor abilities, and preparation in dealing effectively with future physical therapy problems through problem solving. Two curriculum theorists and two physical therapists reviewed the design and found it to be theoretically sound, innovative, and comprehensive.

056. PSap(a)

Barratt, B. B. Training and transfer in combinatorial problem solving: The development of formal reasoning during adolescence. _Developmental Psychology_, 1975, _11_(6), 700-704.

Training and transfer effects in combinatorial problem solving studied with samples of early and middle adolescents for the purpose of exploring the emergence of combinatorial competence as an aspect of the development of formal reasoning. Ss completed an educational experience, posttest, and delayed posttest. Combinatorial performances on concrete problems and problems of low complexity were superior to those on abstract complex problems. Middle adolescents responded to education and transfer situations. (Ed.: Study completed with adolescent, not adult, Ss. However, constructs appear to have potential for application to study of problem solving among adult samples.)

057. PSmo; ePS

Bashook, P. G. A conceptual framework for measuring clinical problem-solving. Journal of Medical Education, 1976, 51(2), 109-114.

Clinical problem solving skills are measured by assessing the clinician's knowledge, even though there is a clear difference between the two. A framework for clinical problem solving is built upon defining the domain in which the clinician functions. Implied assumptions are that there is a distinction between coming to a known solution and resolving a problem by reaching an acceptable stopping point, that the problem solving process includes problem sensing, defining, and resolving, that the context of most clinical problems create limits on acceptable resolution, and that distinctions between medical specialties and subspecialties have some meaning in assessing clinical problem solving. The framework defines problem solving by three dimensions: problem solving process (sensing, defining, resolving), clinical discipline, and context of care, with success in one domain not necessarily an implication of success in another.

058. PSap(t); cPSpr(m); cPSpr(a); cPSpr(s)

Basic training for skill development. Ottawa, Ont.: Department of Manpower and Immigration, Occupational and Training Analysis and Development Branch, 1974. (ERIC Document Reproduction Service No. ED 092 802)

058. (cont'd)

Set of descriptive articles concerned with detailing the try-out of different methods of basic skill instruction for disadvantaged adults. Instructional materials and techniques have been developed from a "training viewpoint" which emphasized the learning of basic skills and their applications to life tasks (e. g., vocational development) through use of individualized, concrete, interest-oriented materials.

059. PSap(t)

Bassler, O. C., et al. Comparison of two instructional strategies for teaching the solution of verbal problems. Journal for Research in Mathematics Education, 1975, 6(3), 170-178.

060. PSap(t)

Bassler, O. C., et al. Comparison of two instructional strategies for teaching the solution to verbal problems. Nashville, Tenn.: George Peabody College for Teachers, 1972. (ERIC Document Reproduction Service No. ED 075 260)

Study designed to assess the relative effectiveness of two instructional strategies for verbal problem solving: an hierarchical 6-step approach as opposed to a discrete approach. Instructional materials were programmed for teaching machines and presented to a sample of 9th-grade algebra students who had been randomly assigned to one of two strategy groups. Ss learning problem solving under the hierarchical approach per-

060. (cont'd)

formed significantly better than those learning under the discrete approach. References: (1) hierarchical strategy-Polya, G. How to solve it. New York: Doubleday, 1957; (2) discrete strategy-Dahmus, M. E. How to teach verbal problems. School Science and Mathematics, 1970, 10, 121-138. (see Boersig, T. M., ref. #084)

061. PSap(t); ePS; mPS

Batchelder, A. J. The community college reading center: Curriculum principles for the adult reading student and management training for center instructors. Benton Harbor, Mich.: Lake Michigan College, 1975. (ERIC Document Reproduction Service No. ED 124 229)

Analysis of instruction for adult reading student should be built on perceptual skill-building principles as opposed to type of analytic framework used for elementary student instruction.

062. cPSpr(m)

Bauer, B. M. A model of continuing education for older adults (Doctoral dissertation, University of Minnesota, 1975). Dissertation Abstracts International, 1975, 36(6), 3327A-3328A. (University Microfilm No. 75-27, 123)

A survey of adults 55 and older participating or indicating interest in a "Seniors on Campus" program at a community college

062. (cont'd)

found a positive attitude toward learning and involvement in other activities. Preferences were for non-credit expressive classes and activities during the day with minimal rather than free tuition. A survey of professional educators in community services and continuing education indicated that 94% considered education programs and services important for older persons. In general though, responding institutions indicated a lack of advisory committees for senior programming, poor utilization of services provided by the Governor's Council on Aging, an unawareness of funding sources, an inability to meet the educational needs of their senior communities, mostly due to lack of funding, and practically no formal coursework in gerontology.

063. cPSpr(a)

Bayley, N. Learning in adulthood: The role of intelligence. In H. J. Klausmeir, & C. W. Harris (Eds.). Analyses of Concept Learning, 1966. Pp. 117-138.

Follow-up study of 55 Ss from the Berkeley Growth Study found no decrease in mental ability with increasing age; verbal knowledge ability was found to increase.

064. cPSpr(a); cPSpr(s)

Bayley, N., & Oden, M. H. The maintenance of intellectual ability

064. (cont'd)

in gifted adults. Journal of Gerontology, 1955, 10(1), 91-107.

Twelve year follow-up of 768 Ss from the Terman Study of the Gifted plus the spouses of about half to compare performance over time of a sample of adults in the areas of symbolic and abstract reasoning (Terman's Concept Mastery Test). Ss, well motivated and highly intelligent, showed a significant increase in reasoning over the 12-years; spouse group more varied of the two.

065. PSap(a); cPSpr(s)

Bee, H. L. Cognitive style and performance under distraction: A partial replication. Perceptual & Motor Skills, 1968, 26(3), 863-867.

An ANOVA experiment investigated individual differences of 44 male and female undergraduate adults in distractibility (as measured by the Stroop Word Color Interference Test) as a function of the interaction between cognitive style (conceptual or perceptual motor dominant) and task requirements (anagram and math. problems). There were no differences between cognitive style groups on performance without distraction. Conceptual Ss were less disrupted by distraction or anagrams than perceptual motor Ss; no differences obtained on math. problems. No sex differences were obtained.

066. PSmo; PSap(t); cPSpr(s)

Belbin, E., Belbin, R. M., & Hill, F. Comparison between the results of three different methods of operator training. Ergonomics, 1958, 1, 39-50.

Three types of operator training in weaving for older women were compared: (1) the exposure method where a trainee worked with a skilled worker, the latter instructing where he deemed it necessary; (2) the training within industry (TWI) method which used job breakdown, instruction, and practice by stages; (3) the experimental method which conditioned the trainee to important cues of the task by successive presentation of tasks in which essential perceptual stimuli are emphasized or responses to these stimuli are facilitated. Differences in quality of mending for the three methods were slight. Upon completion of training all Ss in the experimental group attained a reasonable standard, some Ss in the TWI group reached a very good standard, but some were very poor, and only one S reached a very good standard in the exposure group. It was concluded that older people can be adequately trained by the experimental method where good eyesight is not that essential, and that minimizing erroneous cues is important in the training of older persons.

067. PSap(p); PSap(t); cPSpr(s)

Belbin, E., & Downs, S. Teaching paired associates: The problem of age. Occupational Psychology, 1966, 40(1-2), 67-74

067. (cont'd)

Study designed to evaluate four methods of teaching paired associates to young and old, unskilled or semiskilled male post office trainees and to examine developmental differences between two age groups in the learning of a hand sorting task. Methods used included list learning, activity learning: progressive part and whole methods, programmed learning, and deduction. Younger Ss performed better, particularly with the progressive part activity method. Programmed instruction was associated with a decrease in scores of older Ss except when deductive programmed materials were used. Adults appear to learn through inference once formal education is over.

068. PSap(a); PSap(p)

Belbin, E., et al. Unlearning and its relationship to age. Ergonomics, 1964, 7(4), 419-427.

Two studies, one on the effect of guessed responses on subsequent performance and the other on the capacity to change (unlearn) learned responses, were completed to determine the relationship between age and performance. Ss 14 to 52 years from varied educational backgrounds and ability levels, were assigned to one of three age groups. No relationship was found between age and guessing. While the older Ss found more difficulty in unlearning the first list, the middle Ss tended to be slightly better than the younger Ss in unlearning verbal associations. Implications drawn for industrial training for

068. (cont'd)

adults: design programs for adult learners which allow for the independent exercise of judgment while at the same time providing immediate constructive feedback.

069. ePS

Bennett, D. B. Guidelines for evaluating student outcomes in evironmental education. Yarmouth, Maine: Maine Environmental Education Project, 1973. (ERIC Document Reproduction Service No. ED 101 927)

Three behavioral evaluations for students in environmental education included a description of the student while in the learning process, formal testing for skills and knowledge, and unobtrusive evaluation of students' feelings.

070. cPSpr(m); CPSen(s)

Bergsten, U., et al. The SOS-VUX project: Study needs and study obstacles in adult education, background and design. Strasbourg, France: Council of Europe, Committee for Out-of-School Education and Cultural Development, 1973. (ERIC Document Reproduction Service No. ED 074 347)

Three obstacles found to hinder adult education for Swedish adults were obstacles posed by (1) the individual, e.g., lack of knowledge, finances, self-confidence and time; (2) educational offerings, e.g., unsuitable and irrelevant courses; and (3) the social environment, e.g., lack of stimulating surroundings,

070. (cont'd)

economic and transportation difficulties, unsuitable working hours, and child care.

071. PSap(t)

Berla, E., Persensky, J., & Senter, R. J. Learning time with a mnemonic system. *Psychonomic Science*, 1969, *16*(4), 207-208.

Study of the learning process in young adult Ss using Furst's mnemonic system to structure coding and retrieval found Ss time for learning decreased with this technique. (Reference: Furst, B. *Stop forgetting*. New York: Greenburg, 1949.)

072. mPS

Bernard, M. E., & Klausmeier, H. J. *The empirical validation of the model of conceptual learning and development using the concept of cutting tool*. Madison, Wisconsin: Wisconsin University, Research and Development Center for Cognitive Learning, 1973. (ERIC Document Reproduction Service No. ED 103 481)

Among 400 elementary and junior high school students with equal numbers at high, medium and low ability, Ss who attained the concept of cutting tool at the formal level used the concept more effectively in cognizing supraordinate-subordinate relationships, in understanding principles, and in problem

072. (cont'd)

solving situations than Ss who attained this concept at the classificatory level. Ss who knew the label and defining attributes of cutting tool and definition performed better on three concept uses than Ss who did not. Implication for uses include studying internal and external conditions of concept learning, conducting behavioral analyses of concepts taught in the classroom, and examining conceptual development in school-age children. (Ed.: While this study has been completed with younger Ss, the constructs appear to be adaptable to a study of cognitive functioning of adult Ss.)

073. cPSpr(m)

Berry, D. A multi-phasic motivational paradigm for adult
education. Adult Education, 1971, 22(1), 48-56.

Multi-Phasic Motivational Paradigm (M-PM Paradigm) is a systematic model which "relates the motivational forces evolving from a person's basic drives, job-related knowledge, needs, and dymanic motivation in an ultimate education situation."

074. ePS

Besel, R. Diagnosis-prescription in the context of in-
structional management. Los Alamitos, Calif.: Southwest
Regional Laboratory for Educational Research and Develop-

074. (cont'd)

ment, 1972. (ERIC Document Reproduction Service No. ED 108 594)

Diagnosis is a cyclic process of test selection, symptom detection, and probable state evaluation. A prescriptive procedure uses current diagnostic information and considers the cost, risk, and predicted effectiveness of each potential treatment. In the diagnosis-prescription decision sequence a problem comes to the attention of a decision-maker by the evidencing of a set of symptoms, and the decision-maker prescribes an assigned treatment.

075. cPSen

Bies, J. D. Environmental influences on problem solving ability in three demographic groups. Columbia, Missouri: Missouri University, 1972, (ERIC Document Reproduction Service No. ED 076 775)

Study of the relationships between problem-solving ability and environmental factors among adolescents from urban, suburban and rural groups found family and school background factors had a significant influence on problem-solving ability irrespective of curriculum (i. e., practical arts, academic, and control) or location.

076. cPSpr(a); cPSpr(s)

Binder, D. M., Jones, J. O. ,& Strowig, R. W. Non-intellective

076. (cont'd)

self report variables as predictors of scholastic achievement. Journal of Educational Research, 1970, 63(8), 364-366.

Two studies of rural high school seniors from two different schools investigated self-expectations and self-concepts of ability (measured by Self-Concept of Ability Scale) as predictors of academic achievement (Henmon-Nelson Test of Mental Ability). Results indicated that self expectations and self-concepts of ability seem to be associated with academic achievement among rural high school seniors, especially girls.

077. cPSpr(s)

Birkhill, W. R., & Schaie, K. W. The effect of differential reinforcement of cautiousness in intellectual performance among the elderly. Journal of Gerontology, 1975, 30(5), 578-583.

Study found that elderly persons (i. e., 62 to 86 years) when exposed to low risk conditions (where low risk = freedom of not acting) perform significantly better on cognitive tasks than those functioning under high risk conditions.

078. PSap(t); cPSpr(m); cPSpr(a)

Bischof, L. J. Adult Psychology. New York: Harper, 1969

Not clear whether young adults solve problems better or

078. (cont'd)

worse than older adults. Of significance is the quality of mental ability: bright people, in general, solve problems better. Adults can learn new problem solving approaches but (1) are reluctant to learn a new approach unless convinced new approach will work better than accustomed one, (2) appear to learn less rapidly with increasing age. Factor of general ability level appears to set level of problem solving through life span.

079. ePS; mPS

Blaney, J. P. The application of formative and summative evaluation techniques to short term adult education courses. Paper presented at Adult Education Research Conference, Chicago, Illinois, 1972. (ERIC Document Reproduction Service No. ED 062 608)

Description of a set of materials to be used in developing and evaluating instruction. Emphasis is on evaluation becoming an integral part of planning and review/amendment of every phase of instruction in adult education. Operational procedures include (1) collection of needs and goals, setting of priorities; (2) specification of cognitive and affective objectives: instructional effectiveness standards, entry behavior, criterion measures; (3) development of instructional plan: try-outs, unit construction of instructional plan,

079. (cont'd)

diagnoses of instructional effectiveness and individual learner progress, selection of media and instructional facilities; (4) management of instruction: monitoring implementation of instructional plan, revisions in ongoing instruction; (5) terminal evaluation and follow-up: immediate and delayed collection of outcome data; use of outcome data; cost of results; evaluating course development process and operating procedures; evaluation report.

080. PSap(t)

Blaney, J. P.,& McKie, D. Knowledge of conference objectives and effect upon learning. Adult Education, 1969 , 19(2), 98-105.

ANOVA experiment studied the relationship between knowledge of objectives in an adult education program and the attainment of those objectives in 60 volunteer public school administrators. Group A's treatment consisted of an oral and written presentation of conference objectives, conference attendance, and a post-conference test; group B had a general introduction and orientation pre-conference session, conference attendance, and a posttest; group C had a pretest, conference attendance and a posttest. Group A did significantly better than group B on the criterion test. There was no significant difference between other pairs of means. The author proposed that be-

080. (cont'd)

haviorally stated objectives can assist program planners in focusing attention on the adult student, communicating intended instruction to resource persons, identifying course aims, and developing an integrated, sequential program.

081. PSap(t)

Blechman, E. A. A problem solving training package for the single family. Bethesda, Maryland: National Institutes of Mental Health, 1975. (ERIC Document Reproduction Service No. ED 122 174)

Problem solving training package for single parent families with preadolescent and adolescent children proceeded as follows: intake interview, modeling and prompt pinpointing of problem behavior, providing information about underlying concepts, presenting diverse activities and social rewards, providing a routine to replace angry outbursts at home, heightening awareness of pleasing behaviors, structuring contingency contracting to accelerate on task problem solving behavior, rehearsing component problem solving behaviors, rehearsing thinning rewards and shifting to social rewards, and transferring all problem solving to the home. Two broad goals of problem solving training are to alleviate problems by teaching family members to write and successfully execute contingency contracts, and to transfer after training to weekly family management sessions.

082. cPSpr(s)

Blum, J. E., Fosshage, J. L.,& Jarvik, L. F. Intellectual changes and sex differences in octogenarians: A 20-year longitudinal study of aging. Developmental Psychology, 1972, 7(2), 178-187.

Twenty-year longitudinal study in which 54 white male and female Ss covering the ages 60-93, a majority being farmers with some bluecollar and clerical job holders, were given a series of recognized verbal and performance tests. There were declines on all tests with significant decrements on speeded tasks (67 to 75 years) and a significant but minimal decline in vocabulary and similarities. It was found that the decline in men is faster than in women, the decline in verbal functioning begins in the 70's and becomes significant but minimal in the 80's, and the decline in retrieval from short-term memory appears at about 70 years. All Ss were not subject to decline, some increased.

083. cPSen

Blum, Z. D., & Rossi, P. H. Social class research and images of the poor. In D. P. Moynihan (Ed.). On Understanding Poverty. New York: Basic Books, 1968.

Criteria in selected social and personal categories which regularly distinguish lower status persons from persons of higher status are: (1) labor force participation-unemployment and/or intermittent employment, public assistance

083. (cont'd)

for extended periods; (2) occupational participation-jobs at lowest level of skills, when employed; (3) family and interpersonal relations-high rate of marital instability, high incidence of female heads of households, unstable and superficial interpersonal relationships, suspicion of persons outside immediate household; (4) community characteristics-low levels of community participation; (5) relationship to larger society-little interest in or knowledge of larger society, some degree of alienation; (6) value orientation-sense of helplessness and low sense of personal efficacy, low need for achievement and level of aspiration for self, dogmatic and authoritarian in political orientation.

084. PSmo

Boersig, T. M. The DPPC method--an opposing view. School Science and Mathematics, 1973, 73(8), 641-645

Results of this study support a hypothesis that the "DPPC Method" of problem solving (Dahmus, M. E. How to teach verbal problems. School Science and Mathematics, 1970, 70, 121-138) conditions learners to become proficient in "punching out translations to work patterns and following a prescribed recipe." The method does not give the student direction in developing problem solving ability. (Ed.: differentation between meaningful reception learning and meaningful discovery learning; the latter, in this context, is seen as synon-

084. (cont'd)

ymous with problem solving.)

085. cPSpr; cPSen(s)

Boggs, D. L. An interpretive review of social science research on behaving-valuing patterns of low status people. Adult Education, 1974, 24(4), 293-312.

Interpretive review of social science research on the lives of individuals identified as "low socioeconomic status," to provide a synthesis of the valuing processes of these groups and an analysis of the relationships between stated purposes for adult education programs, especially ABE programs, and these behaving-valuing processes. Statement on the importance of taking into account the value structures in developing ABE programs.

086. cPSen

Boggs, D. L. Accent on social philosophy, A. E. A. and the culturally distinct. Adult Leadership, 1974, 22(8), 271.

Function of education for the economically deprived and culturally distinct adult is to help him adjust to society's standards, as well as help him control and manage his world. Educational needs and problems of culturally distinct adults should be the focus of educational program design.

087. cPSpr(m); ePS

Bolanovich, D. J. Interest tests reduce factory turnover. Personnel Psychology, 1948, 1, 81-92.

087. (cont'd)

Predictive test of length of service that sampled interests, ambitions, and social preferences related to a work situation was designed and used with women factory workers. Those workers remaining who stayed in employment were characterized by a dislike of mechanical and repetitive factory work, and a preference for simple activities free of responsibilities. Use of this E-devised Interest Inventory appeared to reduce early turnovers.

088. cPSpr(m); cPSpr(a); cPSpr(s); ePS

Bolton, B., & Sugent, E. Abstract reasoning ability as a predictor of vocational success of adult retardates. Educational and Psychological Measurement. 1974, 34, 1009-1011.

Study designed to assess the validity of the Attitudes Toward Work and Money Questionnaire (ATWMQ), a measure of attitude toward work and of abstract reasoning, as a predictor of vocational adjustment for mentally retarded adults. ATWMQ did not discriminate, i. e., motivation and abstract reasoning not related to criteria of vocational success for the sample studied. Results can be attributed to special training program in which sample members participated. Critical factors in vocational "success" may be personality and motivational factors rather than ability factors. (Reference: Barrett, A. M., Relos, R., & Eisele, J. Vocational success and attitudes of mentally retarded toward work and money. American Journal of Mental Deficiency, 1965, 70, 102-107.

089. PSmo; PSap(t)

Bolton, C. R. Humanistic instructional strategies and retirement education programming. Gerontologist, 1976, 16(6), 550-555.

Pilot program evaluation of field testing of "Planning and the Third Age," a structured, student-centered, group-process focused educational experience. Program emphasizes (1) understanding and adaptation to process of change in current society, (2) providing practice in self-guided learning, and (3) promoting personal self-confidence, within the general objectives of a humanistic orientation. Such an orientation is characterized by educational programs designed to foster enhancement of the self-concept, development of achievement motivation, promotion of creative (divergent) thinking and behavior, clarification of values, and encouragement of better human relations. 74% of the adults, aged 30 to 89, in the evaluation group perceived the course as useful; 93% were positive about the affective component of the program.

090. ePS

Bolton, E. B. Program evaluation procedures in adult basic education: An application of Scriven's methodology (Doctoral dissertation, Florida State University, 1975). Dissertation Abstracts International, 1976, 36(8), 958A. (University Microfilm No. 76-2625)

090. (cont'd)

Study designed to develop a procedure for formative and summative evaluation of ABE programs was based on survey data obtained from participants in district ABE programs in Florida. The 10-step procedure included: (1) assessment of needs, (2) ranking of needs, (3) translation of ranked needs into program goals, (4) definition of objectives within goals, (5) sequencing of objectives, (6) development of instrumentation and procedures, (7) application of instrumentation and gathering of data, (8) analysis of data, (9) comparison of data to judgment criteria, (10) determination of course of action.

091. mPS

Boocock, S. S. Life career (School job catalog, instructor's manual, spinner and scoring booklet, and game materials). Wayne, N. J.: Western Publishing Co., Inc., 1969.

Simulation game on the way labor markets, educational opportunities, and marriage and leisure patterns operate in our society allows participants to "walk through" 8-years into the future as decision makers for a fictitious person presented as profile or case study. Game designed to meet four basic requirements for intelligent career decision making: (1) feeling for what future will be like, (2) information on alternatives and/or opportunities, (3) pattern of a life cycle, and (4)

091. (cont'd)

practice in decision making. Developed for high school and college students. (Ed.: can be adapted possibly for adult groups.)

092. cPSpr(m)

Bortner, R. W., Dubin, S., Hultsch, D. F., & Withall, J. (Ed.). Adults as learners. College Park, Pa.: Pennsylvania State University, Institute for the Study of Human Development, 1974. (ERIC Document Reproduction Service No. ED 106 462)

Adult learners have motivation and behavior patterns which differentiate them from younger learners although the motivation or behavior category, e. g., personal and family, may be shared.

093. mPS; cPSpr

Borton, T. What's left when school's forgotten? Saturday Review, 1970, 53(16), 69-71; 79-80.

Discussion of selected programs in education which deal with the "processes of an educated mind--ways of gathering, evaluating, and acting upon information," and definition of the benefits of learning these processes which are fundamentally applicable to future life situations. These programs are discussed: The Productive Thinking Program, LOGO Language, Tools for Change.

094. cPSpr(m); ePS

Boshier, R. Factor analysts at large: A critical review of the motivational orientation literature. Adult Education, 1976, 27(1), 24-47.

Review of methodology employed as well as general behavioral categories used in 14 motivational orientation (i. e., reason for participation) studies which used one of the following three instruments: (1) Education Participation Scale (Boshier, R. W. Motivational orientations of adult education participants: A factor analytic exploration of Houle's typology. Adult Education, 1971, 21, 3-26); (2) Reasons for Educational Participation Scale (Burgess, P. Orientations of adult participants in group educational activities. Unpublished doctoral's dissertation, University of Chicago, 1971.); and (3) Continuous Learning Orientation Index (Sheffield, S. B. The orientations of adult continuing learners. Unpublished doctoral dissertation, University of Chicago, 1961.).

095. PSap(a); PSap(t); ePS

Boshier, R. Behavior modification and contingency management in a graduate adult education program. Adult Education, 1975, 26(1), 16-31.

Pilot testing of a contingency management program involving immediate reinforcers led to the conclusion that it appeared to be possible to evoke the desired study and participation

095. (cont'd)

behaviors with adult students in a normal classroom environment. Author suggests that the "most powerful applications will be in adult basic education environments," especially when principles of contingency management are translated into educational practice alongside of, or as part of, humanistic constructs.

096. cPSpr; cPSen

Boshier, R. W. Educational participation and dropout: A theoretical model. Adult Education, 1973, 23, 255-282.

"Congruence" model based on self-theory proposed to account for adult education participation and dropout. Analysis of 2,436 responses on Personality and Educational Environment Scales (PEES) indicated that younger adults drop out more readily than older adults. Further, reasons for dropping out do not rest solely within the participant; need to match student and educational environment (e. g., different instructional techniques, schedules for adult learners); attention directed to both formal (e. g., entrance requirements and assessment) and informal (e. g., reception given enrolling students) aspects of the educational environment.

097. cPSpr(m); ePS

Boshier, R. W. Motivational orientations of adult education participants: A factor analytic exploration of Houle's

097. (cont'd)

Typology. Adult Education, 1971, 21, 3-26.
Factor analytic study of motivation for participation in adult education using Houle's Education Participation Scale yielded 14 factors: social welfare, social contact, other-directed professional advancement, intellectual recreation, inner-directed professional advancement, social conformity, educational preparedness, cognitive interest, educational compensation, social sharing, "social" improvement and escape, interpersonal facilitation, education supplementation, independence of t. v.

098. PS; PSap(p); cPSpr(a); cPSpr(s)

Botwinick, J. Aging and behavior. New York: Springer, 1973
1. Chapter 6. Simple Rigidity and Chapter 7. Multidimensional Rigidity: examines construct and components of rigidity and the relationship of rigidity to dogmatism, aging, and intelligence. Rigidity not a unitary concept. Complex relationship between aging and rigidity and it is difficult to separate rigidity in behavior from deficits in cognitive performance. Dogmatism, like rigidity, has several aspects.
2. Chapter 14, Problem Solving and Chapter 15. Learning and Performance: ability to solve problems is dependent upon cognitive abilities plus a variety of other factors. Older Ss appear to prefer concrete as opposed to abstract, problem

098. (cont'd)

situations. Rigidity can cut down on problem solving ability. Great extent of individual variation in problem solving ability in adults; data on decline of this ability with age is equivocal. Adults appear to maintain the ability to learn and to perform new activities. Motivation and task meaningfulness have significant effects on these abilities.

099. PSap(p); cPSpr(s)

Botwinick, J. Disinclination to venture response versus cautiousness in responding: Age differences. Journal of Genetic Psychology, 1969, 115(1), 55-62.

ANOVA experiment investigated cautiousness in the elderly with 38 elderly Ss 65 to 88 years and 88 university students 18 to 27 years of varying educational levels. A questionnaire of Life Situations revealed that elderly Ss were not more cautious than younger Ss when forced to face a risk taking situation. There was a tendency in the elderly to avoid decisions of risk when optional, rather than a cautiousness in problem solving. Age, lack of self-confidence and fear or expectancy of failure may underlie this tendency. There were no significant differences based upon education.

100. PSap(p); cPSpr(s)

Botwinick, J. et al. Task alteration time in relation to problem difficulty and age. Journal of Gerontology, 1958, 13, 414-417.

100. (cont'd)

ANOVA experiment investigated facility in the modification of arithmetic operations increasing in difficulty (as measured by an E-devised Alternation Index) with two groups of male inmate volunteers, 39 Ss with a median age of 72, and 58 Ss with a median age of 22. Only differences in conditions of difficulty, not age, were significant. Non-parametric statistics indicated a significant age deficit in the Alternation Index. Es suggest that a deficit exists in alternating or changing set with age that is independent of other abilities.

101. PSap(t); mPS

Bowen, U. S. A., et al. Thursday's people on the move. Philadelphia, Penn.: author, 1971. (ERIC Document Reproduction Service No. ED 097 433)

Teaching guidebook for upgrading service occupations developed by the Household Employment Association for Reevaluation and Training covers five major areas: (1) recruitment, screening, and selection; (2) training or retraining, and counseling of household employees; (3) job development; (4) postplacement counseling; and (5) community education.

102. cPSpr(s); ePS

Boyce, V. M. The effect of adult basic education on selected noncognitive attributes. (Doctoral dissertation, North

102. (cont'd)

Carolina State University, 1970). Dissertation Abstracts International, 1971, 31(10), 5192A. (University Microfilm No. 70-10,251)

ANOVA study to determine the effects of participation in an ABE course by functionally illiterate adults on selected noncognitive attributes: self-concept (Tennessee Self Concept Scale), internal-external control (Rotter I-E Scale), and anomia (Moon-McCann modification of Srole's Anomia Scale); achievement gains of Ss measured by pre/post administration of Adult Basic Learning Exam (ABLE). Achievement gains were confirmed as was a decrease in the level of anomia. A greater proportion of adults completing the ABE course was employed when compared to that proportion in similar adults who did not take the course.

103. cPSpr(m); ePS

Boyd, R. D. A model for the analysis of motivation. Adult Education, 1965, 16(1), 24-33.

A 3 x 4 matrix model to be used in the analysis of motivation provides for the categorization of data by three personal constructs: physiological, psychological and socio-cultural, and four motivational constructs: source, arousal, expression, and reward/punishment.

104. PSmo; PSap(a); cPSpr(m); cPSpr(s); ePS

104. (cont'd)

Boyd, R. D. et al. Adult education research conference papers. Saskatoon, Saskatchewan: Saskatchewan University, 1973. (ERIC Document Reproduction Service No. ED 078 270)

A series of papers dealing with (1) implications of learning models for adult instruction; (2) group process training related to group problem solving; (3) motivational, cognitive structure (defined in terms of Rokeach's Dogmatism Scale), and concept formation variables affecting performances of adult learners; (4) methods for evaluating knowledge, attitudes; and (5) skills needed for effective performance in adult education programs.

105. cPSpr(m)

Brash, F. B. Motives for attendance at evening adult school by former day-school drop-outs. Fresno, Calif.: Fresno State College, 1964. (ERIC Document Reproduction Service No. ED 017 779)

Questionnaire survey of high school dropouts in attendance at evening adult school yielded data that indicated the major cause of dropout for male students as financial necessity, i. e., "need to help family financially."

106. ePS

Bray, D. W., & Campbell, R. J. Selection of salesmen by means of an assessment center. Journal of Applied Psychology,

106. (cont'd)

1968, 52(1), 36-41

Biographical data, interviews, and results from four tests of knowledge and reasoning ability were obtained for 78 male Bell System employees with little or no sales experience. Simulated assessment techniques included a leaderless group discussion where fictitious candidates were rank ordered for promotion, an oral fact-finding exercise where a labor-management dispute is arbitrated, and a consulting case where operations and problems of a business concern are studied, and recommendations prepared.

107. cPSen(s)

Brembeck, C. S., & Grandstaff, M. Non-formal education as an alternative to schooling. East Lansing, Michigan: Michigan State University, 1974. (ERIC Document Reproduction Service No. ED 103 308)

Descriptive analysis of means for determining alternatives to formal education based upon the assumption that different learning environments are conducive to accomplishing different goals. Need exists fo find out more about the structural properties of learning environments which set the limits of their capacities and to determine means of matching these properties to learner needs and goals.

108. PSap(a); cPSpr; cPSen; mPS

108. (cont'd)

Brennan, P., & Donoghue, A. A. Biculturalism through experiential language learning. San Diego, California: San Diego Community College, Division of Adult Education, 1972. (ERIC Document Reproduction Service No. ED 064 603)

Description of an ESL program which focuses on language training and is designed to assist the adult learner to enter the job market and the community. These skills are stressed: punctuality, consistent attendance, interpersonal skills with supervisors and peers, identification of job sources, techniques for being interviewed, filling out job applications, and presenting a good appearance. Decision making skills also included. Media used extensively.

109. PSap(t)

Brenner, C. J. An experimental comparison of direct-detailed versus directed discovery laboratory exercises in teaching selected elements of basic electricity. Columbia, Mo.: University of Missouri, 1968. (ERIC Document Reproduction Service No. ED 025 624)

Study of the effects of the "direct-detailed" and "directed discovery" problem solving techniques to determine their effects on selected behavior processes. The directed discovery method was superior for problem solving performance and equal to the other method on technical information learning, influencing student attitudes toward the subject, and retention

109. (cont'd)

of content.

110. PSap(t)

Brewer, D. W. An analysis of the effect on achievement of adult students using learning organizers in short, intensive management technique courses (University of Iowa, 1974). Dissertation Abstracts International, 1975, 35(7), 4240A. (University Microfilm No. 75-1188)

ANOCOVA experiment determined the effect of learning organizers on achievement in short, intensive management technique courses for 84 adults. Four classes were taught by two instructors, each teaching one class with learning organizers and one without. Results indicated no difference in mean achievement between Ss with and without learning organizers. Other factors not significantly related to or interacting with level of achievement were age, educational background, reason for class attendance, average non class study time, career plans, recency of taking a college course for credit, and extent of managerial experience.

111. PSap(a); PSap(t); cPSpr(a); mPS

Briggs, L. J., et al. Investigations of thinking via self-instructional programs. Palo Alto, Calif.: authors (NDEA, Title VII), 1964. (ERIC Document Reproduction Service No. ED 003 627)

111. (cont'd)

New programming formats devised with variations in style of sequences to differentially establish new learning, provide review to enhance retention, and give more practice to the student in organizing and consolidating learning, were studied. Results showed supplementary practice study produced no better results on a criterion test than additional study of the basic lesson. Problem solving performance appeared more closely related to time spent in study than to variations in study method. Knowledge of principles coupled with the student's own ability appeared to be the two main factors in successful problem solution.

112. cPSpr(s); cPSen(c); cPSen(s)

Bringmann, W. G. Re-examination of ethnocentrism and problem-solving rigidity. Psychological Reports, 1967, 20(3), 1069-1070.

Differences in rigidity (as measured by the California F-Scale and water jar problems) were assessed in 122 male undergraduates enrolled in an English course classed as high, moderate, and low ethnocentric. High ethnocentric Ss did not differ significantly in rigidity from low ethnocentric Ss. Moderate ethnocentric Ss were significantly less rigid than high and low ethnocentric Ss alone and in combination.

113. cPSpr(a)

Brinley, J. F., Jovick, T. J., McLaughlin, L. M. Age, reasoning, and memory in adults. Journal of Gerontology, 1974, 29(2), 182-189.

ANOVA experiment studied the relationship between reasoning and memory functions (as measured by the Shipley-Hartford Vocabulary and E devised concept problems) in 96 male and female volunteers (22 to 66 plus years) recruited through a church related club. A significant decline in reasoning scores beginning in the 36 to 50 year group, with a greater decline appearing over 50 years, occurred. The only significant memory variable interacting with age was that of storing, retaining, and utilizing information when this information was more complicated from a logical viewpoint. Memory variables not interacting with age were opportunities for reviewing information, amount of information to be retained, and use of negative and positive information. No evidence appeared for sex differences.

114. PSap(t); cPSen

Briscoe, R. V., Hoffman, D. B., & Bailey, J. S. Behavioral community psychology: Training a community board to problem solve. Journal of Applied Behavior Analysis, 1975, 8(2), 157-168.

Behaviorally based program was developed to teach specific

114. (cont'd)

problem solving skills of identifying and isolating the problem, stating and evaluating alternative solutions, and selecting a solution to low income community board members 15 to 69 years. Group training with lectures, models and verbal and written responses was ineffective. This was attributed to Ss' off-task behavior, emphasis on lecture method and reading materials, and too many diverse behaviors required: writing, comprehension, following the lecture. Individual training used modeling, role-playing, picture problems and cue phrases for verbalizing. Problem solving behavior occurred following training on a particular skill in experimental Ss, but not in control Ss. Informed observation suggested that Ss were actively imitating the behavior of trained board members.

115. PSap(t); cPSpr(s)

Broadwell, M. M. How to deal with a mixture of age and experience in the classroom. Training, 1976, 13(7), 32-33.

Ego protection of individual students is suggested as an essential technique for working with adult students of different age and experience levels. Open communication systems encourage cooperation of group toward common goal.

116. cPSpr(a)

Bromley, D. B. Some effects of age on the quality of intel-

116. (cont'd)

lectual output. Journal of Gerontology, 1957, 12, 318-323.

Age differences in higher intellectual processes, relationships between facts of normal intellectual decline with age and aspects of the pathology of thought, and the effect of holding quantity of intellectual output constant on the quality of that output when related to increasing age, was studied in 256 adults 17 to 82 years of high intelligence. Results indicated an association between an increase in chronological age after maturity and a decrease in qualitative scores for tests of proverb interpretation. Creative (divergent thinking) test responses showed not only an increase in total errors with increasing age, but a deterioration in quality of errors, with differences in proportions of normal and abnormal errors statistically significant. The tentative explanation was that normal errors result from ignorance or lack of intelligence while abnormal errors result from a concrete, primitive, disorganized way of thinking.

117. PSap(p); cPSpr(s); ePS

Bromley, D. B. Some experimental tests of the effect of age on creative intellectual output. Journal of Gerontology, 1956, 11, 74-82.

Study of the effects of age and sex on quantity and quality of creative (divergent) thinking output and on the association

117. (cont'd)

between quality and quantity of output and general ability level based upon data obtained from the Shaw test completed by 256 M and F Ss, aged 17 to 82 years. Depending upon the slope of the decline across the age range of the sample, loss of power in divergent thinking output was attributed to loss of drive, persistence, imagination, and perceptual acuity; recession of fluid intelligence; and decrease in performance potential. An increase of poor output across the age span was attributed to impairment of self-evaluation, compensatory behavior, or regressive behavior. (Ed.: results obtained from cross-sectional sample.)

118. mPS

Brooks, J. S. Report to the national interest council. Dallas, Tex.: Dallas Public Library, 1972. (ERIC Document Reproduction Service No. ED 068 123)

119. mPS

Brooks, J. S. Cracking the structure. Dallas, Tex.: Dallas Public Library, 1974. (ERIC Document Reproduction Service No. ED 098 946)

120. mPS

Brooks, J. S., & Maynard, B. J. Report to the national interest council. Dallas, Tex.: Dallas Public Library, 1973. (ERIC Document Reproduction Service No. ED 073 790)

120. (cont'd)

Description of the Independent Study Project (ISP) which includes a statement on the structure of the library's contribution to the growth of the independent adult learner.

121. cPSpr(m); cPSpr(a)

Brown, M. A., et al. Persistence in university adult education courses. Adult Education, 1966, 16(2), 101-114.

Among variables that were found to separate persisters from nonpersisters in adult education courses are the following: more formal education in background, higher verbal ability, granting of credit for work, and job-related course work.

122. mPS

Bruning, C. R. Using the community in a drug education effort. Paper presented at the meeting of the American Educational Research Association, Chicago, Ill., 1974. (ERIC Document Reproduction Service No. ED 095 435)

Teams of high school students and adults in elementary and secondary education identified and set in motion a "Parents are Responsible" community adult drug education program designed to help parents develop a personal perspective on complexities of the drug problem. Small groups of parents attended five weekly sessions, each one focusing on one aspect of the drug problem and including a discussion and reality quiz. One parent in each

122. (cont'd)

group acted as coordinator, stimulating discussion and acting as liaison between the group and the administrator of the program.

123. PSap(t)

Bryant, A. L. A critical examination of the effect on achievement of students using programmed instruction (PI) in short concentrated management courses (Doctoral dissertation, University of Iowa, 1973). Dissertation Abstracts International, 1974, 34, 3734A. (University Microfilm No. 73-30, 905)

Effect of lecture method of instruction versus programmed instruction on achievement (as measured by an E-devised final exam) in concentrated management courses, and on Ss' demographic characteristics was investigated in 108 adults enrolled in a resident management statistics course. There was no significant difference in achievement between Ss taught by lecture or programmed instruction. On a significant level Ss less than 35 years achieved more than Ss over 35 years, college graduates achieved more than nongraduates, Ss with 10 or less years of work achieved higher than Ss with more than 10 years of work, and Ss who requested course attendance achieved higher than Ss required to attend.

124. PSap(a); PSap(t)

Buckholdt, D. R., & Ferritor, D. E. Effects of token reinforcement on two attending behaviours of adults in a continuing education program. Adult Education, 1974, 24(3), 208-219.

ANOVA experiment investigated the effectiveness of a token reinforcement program in changing the behaviors of being late to class and leaving class without permission in 200 ABE students 19 to 45 years, 75% women, with an average 7th grade educational level. Token reinforcers appeared to affect behavior, but the focus was on the token, not the courses.

125. cPSpr(m); cPSen(s)

Burgess, P. Reasons for adult participation in group educational activities. Adult Education, 1971, 22, 3-29.

Factor analytic study based on responses of 1,046 adults to Houle's Education Participation Scale. Adults appeared to be motivated to participate in educational activities from a desire to (1) know, (2) reach a personal goal, (3) reach a social goal, (4) reach a religious goal, (5) escape, and (6) take part in an activity.

126. PSmo; PSap(a); PSap(t)

Burke, W., & Ellis, B. R. Designing a work conference on change and problem solving. Adult Leadership, 1969,

126. (cont'd)

17(10), 410-412; 435-437.

Problem solving involves these steps: (1) Defining the problem - (a) obtaining clarity and understanding, (b) being as specific as possible, (c) agreement that the defined problem is really the problem. (2) Gathering information - (a) providing incidents or cases that illustrate the problem, (b) discussing issues and concerns related to the problem. (3) Diagnosing and analyzing the causes. (4) Proposing solutions. (5) Discussing solutions - (a) evaluating each, (b) ranking each. (6) Deciding on a solution or a series of solutions - (a) feasible solution, (b) solution which problem solver can implement. (7) Planning action steps. (8) Evaluating manner of working during problem solving process. Steps 1 through 7 are sequential; step 8 occurs throughout the problem solving process.

127. PSap(t); cPSpr(s); ePS

Burkhardt, J. M. Some methods for assisting young adults in self-help counseling (Doctoral dissertation, George Washington University, 1973). *Dissertation Abstracts International*, 1973, *34*, 3052-3053A. (University Microfilm No. 73-25, 326)

ANOCOVA experiment evaluated the counseling techniques of programmed instruction, discussion with peers, and keeping a

127. (cont'd)

structured weekly log, for counseling young adults in personal problem solving with 173 educational psychology students. Programmed instruction was more effective in solving personal problems when comparisons were made on the ability to generate effective goals. It was not possible to say whether peer discussion or keeping a log helped to generate goals, or whether the number or intensity of personal problems was greater or lesser as a result of problem solving efforts.

128. PSap(a); PSap(t)

Calkins, R. R. Cognitive dissonance: Effect on adult learning when incongruous instructors teach through the medium of television (Doctoral dissertation, Denver University, 1971). Dissertation Abstracts International, 1971, 32(1), 193A. (University Microfilm No. 71-17, 916)

Study to determine whether cognitive learning scores (i. e., learning achievement) and perceptual accuity of 360 adult learners would be affected by manipulating the "teacher" variable in a course presented over television. With ability factors controlled, adults exposed to a variety of instructors performed no differently when compared to a matched control group exposed to a single instructor.

129. mPS

Campbell, D. & Kush, G. Planning and operating an individualized learning center. Tempe, Ariz.: Cook Christian Training School, 1974. (ERIC Document Reproduction Service No. ED 097 879)

A non-experimental study providing information on the initiation, operation, and materials used in establishing a successful individualized learning center. An evaluation of such a center dealing with postsecondary American Indian students is included. Results show an overall gain in school related subjects as well as a positive attitude toward this mode of instruction.

130. PSap(t)

Campbell, J. P. Individual versus group problem solving in an industrial sample. Journal of Applied Psychology, 1968, 52(3), 205-210.

Study of individual versus group problem solving behavior indicated that group discussion did not impair individual problem-solving efforts and that group solutions tended to be of significantly lower quality. Further, an inverse relationship appeared between quality of problem solution and orientation toward maintaining group interaction, measured by Bass' Orientation Inventory.

131. PSap(a); PSap(k)

Campbell, R. E. & Wynn, G. A. Coping in the world of work. Paper presented at the annual meeting of the American Personnel and Guidance Association, New York City, 1975. (ERIC Document Reproduction Service No. ED 116 070)

A study advocating a hierarchical five step group approach to problem solving designed to aid students in becoming aware of their motivations in solving simulated problems dealing with adjusting to work outside of school. The five steps are: diagnosing problem; generating solutions; evaluating solutions; choosing a solution; and validating the solution.

132. mPS

Campeau, P. L. Selective review of the results of research

132. (cont'd)

on the use of audiovisual media to teach adults. AV Communication Review, 1974, 22(1), 5-40.

A summarization of findings from experimental studies spanning a 5 year period (1966-1971) assessing the instructional effectiveness of various audio-visual media on postschool education adults. Twelve studies met experimental selection criteria; others briefly noted. Areas covered include programmed instruction; t. v., videotape and motion pictures; slides, filmstrips, overhead transparencies and still pictures; radio and tape recording; and multiple media. Results are mixed and inconclusive with consensus being that data is generally unreliable and methodology inadequate. Authors recommend pursuing sound experimental procedure with replication and follow-up studies and more multimedia projects utilizing a multivariate approach.

133. PSap(p); PSap(t)

Canestrari, R. E., Jr. Paced and self-paced learning in young and elderly adults. Journal of Gerontology, 1963, 18, 165-168.

Study of 30 elderly and 30 young adults compared under paced and self-paced conditions to determine the extent to which performance is related to the character of the task. Analysis of results show that the self-pacing schedule leads to significantly faster learning than paced schedules in older, but not

133. (cont'd)

in younger subjects. Errors of omission decreased significantly under the self-paced condition while errors of commission remained the same under all conditions. Although the younger group performed better on both conditions the two groups were almost equal under the self-paced condition leading to the conclusion that the observed deficits of the older Ss are due to the character of the task rather than a true learning disability.

134. ePS

Cannedy, R. C. The development and validation of psychological tests to predict employee tenure (Doctoral dissertation, Baylor University, 1960). Dissertation Abstracts International, 1969, 30(3), 1391B. (University Microfilm No. 69-13,481)

Study of 518 female sewing machine operators divided into a short, middle, and long tenure group previously given a battery of selected forms from which a battery of 4 instruments were devised to predict tenure and thus reduce employee turnover. Tests developed were: personal history form, interest inventory, visual tracing test, and problem solving test. Analysis of results shows that the personal history form and the interest form demonstrated discriminating items as well as significant validity coefficients while the problem solving

134. (cont'd)

test and visual tracing test demonstrated a slight negative correlation with tenure; neither validity coefficient differed significantly from zero.

135. PSap(t)

Caplan, N. J. The rationale for a comprehensive counseling service for adult students enrolled in evening college degree programs (Doctoral dissertation, University of Pittsburgh,1975). Dissertation Abstracts International, 1976, 36(12), 7805A. (University Microfilm No. 76-14,113)

A non experimental study presenting a model of a comprehensive counseling service, dealing with the educational, vocational, and personal needs of adult evening students enrolled in a college degree program based on the goals and philosophy of adult education. Functions are developmental and voluntary in nature and deal with surface social and psychological problems encountered in the age range: 18 to 65 years.

136. cPSpr(s); ePs

Carter, G. L., Jr., & Funk, C. D. The relationship between dogmatism and performance as measures of problem-solving ability among professional adult educators. Paper presented at the Adult Education Research Conference, Chicago, Ill., 1968. (ERIC Document Reproduction Service No. ED 017 850)

136. (cont'd)

A study of 486 adult educators and 23 supervisors in 5 states which assessed the relationship between degree of openmindedness and performance as measures of problem solving ability among adult educators. An inverse relationship between the level of dogmatism and performance was indicated; most strongly associated with age and educational level of the educators.

137. mPS

Carton, D. Teaching a foreign language in the adult education classroom. *Modern Language Journal*, 1976, *50*(7), 363-368.

Study prescribing the integration of simple warm up exercises, involving vocabulary items and sentence patterns, into the regular lesson plan for adults enrolled in a foreign language class. Lessons should be student centered with practical applications to keep interest and motivation at a high level.

138. PS&p(t); ePS

Case, C. W., and Moore, J. W. *The problem oriented educational record*. Paper presented at the annual meeting of the American Educational Research Association, Chicago, Ill., 1974. (ERIC Document Reproduction Service No. ED 100 990)

Development of a consensually derived data-referral system for delivering educational services in a model school district through application of systems analysis and design techniques. System includes: (1) Initial Data Phase-students problem(s)

138. (cont'd)

observed and recorded by teacher, defined in behavioral terms; (2) Problem Lists-preliminary definition and supporting information for (1); (3) Plan Formulation-team (teacher,principal, specialists) decides on initial diagnostic efforts, communication with student, etc.; (4) Progress Notes, (5) Flow Sheets, and (6) Chart Review-enable staff members to evaluate student progress and amend, if necessary, the individual instructional program. (Ed.: where is student in these discussions?)

139. mPS

Casey, G. M. Public library service to the illiterate adult. Detroit, Mich.: Wayne State University, 1972. (ERIC Document Reproduction Service No. ED 067 133)

Public library programs, services, and materials available for the nonreading adult are described and listed.

140. PSap(t); cPSpr(m)

Castille, E. H., & Brew, E. P. Teaching family life to adults. Adult Leadership, 1974, 22(8), 263-265.

Description of characteristics proper to community education programs designed to teach family life to an adult population with 4th grade educational attainment. Flexibility in design and scheduling to meet adult interests and scheduling needs is the key to course effectiveness.

141. PSmo; cPSpr(a)

Cattell, R. B. Abilities: Their Structure, Growth and Action. Boston: Houghton Mifflin, 1971.

Problem solving is concerned with perceived relationships (and these depend on the individual's general ability); involves the emergence of new concepts and the knowing how and when to "play" these new cards. Phases in problem solving are (1) clarifying the elements in the problem; (2) deciding what the central question really is; (3) experiencing a heightened tension as an effort at solution mounts; (4) marking time (apparently) in what is often a fairly long incubation period; (5) a sudden thrusting up of a solution, often rough, but generally true; and (6) a working out of detail and explicitness and a tidying up the means of communication. Discussion of roles of eductive (general intelligence), associative, and flexible thinking in problem solving and of vital roles played by relation-perceiving insights in problem solving. A way of thinking is learned in solving one problem that does appear to bring some improvement in solving certain others.

142. mPS

Catterton, G., et al. Relevant mathematics. Little Rock, Arkansas: Wynne Public Schools, 1972. (ERIC Document Reproduction Service No. ED 085 261)

Materials developed to provide students with everyday problems and experiences in which practical mathematical applications are made.

143. PSap(t); mPS

Champion, A. Either/or--learning by discovery. Adult Education (London), 1974, 46(6), 383-386.

Discussion of film which demonstrates the problem solving approach to learning in practice for adults. Content of film based on assumption that the intellectual process underlying discovery learning (whether concerned with practical skills or literary criticism) is the capacity of adults to choose between alternatives.

144. mPS

Chapman, K., et al. Simulation/games in social studies: What do we know? Boulder, Colorado: ERIC Clearinghouse for Social Studies/Social Science Education, 1974. (ERIC Document Reproduction Service No. ED 093 736)

Framework, based upon review of available research, to help user of simulation/games learning materials determine structure of the technique on which a given item is based and ways in which a structure might contribute to or detract from the teaching/learning goals of a particular instructional sequence.

145. ePS

Child, D., & Smithers, A. An attempted validation of the Joyce-Hudson scale of convergence and divergence. British Journal of Educational Psychology, 1973, 43(1), 57-62.

145. ePS

Validation study of the Joyce-Hudson Scale, an assessment instrument designed to measure an individual's orientation toward convergent or divergent thinking. Topics included are those associated with personal, social, and intellectual styles of science and nonscience specialists.

146. cPSpr(a); cPSpr(s)

Chown, S. M. Intelligence in adulthood and old age. In W. D. Wall & V. P. Varma (Eds.). Advances in educational psychology: I. New York, N. Y.: Barnes & Noble, 1972. Pp. 144-157.

Problems of the adult are those of maintaining and making sense of behavior patterns already established, and of coping with losses which disturb those patterns. This extends also to logical reasoning and powers of abstract thinking. However, the older the group being studied (e. g., by using the Progressive Matrices) the greater the spread or range of raw scores: (1) age may have a differential effect upon the initially bright and initially less gifted, and (2) "use" of reasoning may have a beneficial effect upon maintaining ability to think.

147. cPSpr(m); cPSpr(a)

Chown, S. M. Age and the rigidities. Journal of Gerontology, 1961, 16, 353-362.

147. (cont'd)

Study of the relationship between rigidity and age, in which a heterogeneous sample of adults aged 20 to 82 years participated, found individual differences not associated with age or intelligence existed for five distinct kinds of rigidity: spontaneous flexibility, disposition rigidity, personality rigidity, speed, and alphabet rigidity. Nonverbal intelligence and adaptive flexibility declined consistently with age. Effects of low intelligence were more far-reaching than age when rigidity studied.

148. PSap(a); PSap(p); cPSpr(s)

Clay, H. M. Changes of performance with age on similar tasks of varying complexity. British Journal of Psychology, 1954, 45, 7-13.

Study of the effect of varying task complexity on the ability to solve a problem at two age levels: 21 and 68 years, indicated a progressive breakdown of performance related to increasing complexity on the part of the older Ss. Older Ss were able to see errors but were unable to make the necessary connections between them; younger Ss more methodical. Both age groups were similar in performance on simpler problems; time for solution about the same for both groups.

149. PSmo; PSap(t)

Coates, G. D., et al. Trends in problem-solving research:

149. (cont'd)

Twelve recently described tasks. Perceptual and Motor Skills, 1971, 33(2), 495-505.

The following approaches to problem solving are discussed: (1) Gestalt approach favors use of subjective reports, emphasizes insightful nature of problem solving process; (2) problem solving in terms of information processing considers information process models for computer simulation of human problem solving behavior; (3) factor analytic technique emphasizes a structured mathematical approach to the description of problem solving. General trend has been toward greater quantification and objectivity in the description of problem solving behavior. Validity, reliability, sensitivity, trainability, problem structure, and problem difficulty are stated as criteria for task selection in problem solving.

150. ePS; mPS

Coffey, J. L., et al. Evaluating the efficiency and effectiveness of self-instructional methods for selected areas of vocational education. Columbus, Ohio: Battelle Memorial Institute, 1968. (ERIC Document Reproduction Service No. ED 019 511)

Analysis of trade and industrial education for the purpose of (1) identifying and describing primary vocational skills, and (2) developing and evaluating 9 self-instructional units. Results of the analysis led to the development of a behavioral

150. (cont'd)

catalog containing the general behaviors involved in trade and industrial education (auto mechanics, cosmetology, drafting, electrical/electronics, machine trades, sheet metal, and welding) and specific examples of how these behaviors are demonstrated. Eight self-instructional units presented with data on the evaluation of their effectiveness.

151. PSmo; PSap(t)

Cohen, H. A. The Art of Snaring Dragons. Artificial Intelligence Memo #338 (Rev.). Cambridge, Mass.: Massachusetts Institute of Technology, 1975. (ERIC Document Reproduction Service No. ED 128 179)

Several models for problem solving are discussed and related to Piagetian construct of conservation. Heuristic framework developed and applied to two sets of physical problems. Several teaching strategies related to the heuristics and to promoting students' self-awareness of their problem solving abilities are presented.

152. PSap(t); cPSpr(m)

Cole, J. W. The effect of adult student participation in classroom planning on achievement, retention, and attitude (Doctoral dissertation, North Carolina State University, 1974). Dissertation Abstracts International, 1975, 36(4), 1978A. (University Microfilm No. 75-15,930)

152. (cont'd)

Study of the influence of adult student participation in classroom program planning on student achievement, retention, and attitude indicated that participation positively affects achievement. Where participant attitudes are not firmly established participation in planning may have a considerable impact. No evidence appeared to support the hypothesis of positive influence on retention.

153. PSmo; PSap(t)

Comprehensive planning model for educational programs. Carson City, Nevada: Nevada State Department of Education, 1973. (ERIC Document Reproduction Service No. ED 084 661)

The comprehensive planning model provides seven basic steps for a systematic approach to problem solving: (1) needs assessment, (2) problem definition, (3) program development, (4) program operation and evaluation, (5) final analysis of evaluative data, (6) dissemination, and (7) recycle. Model is applicable to individual problem solving behavior as well as group performance or program development.

154. mPS

Computer uses in instructional programs. Bibliographies in education, No. 4. Ottawa, Canada: Canadian Teacher's Federation, 1969. (ERIC Document Reproduction Service No. ED 034 728)

154. (cont'd)

Bibliography on the use of the computer in problem solving, tutorial, and drill and practice instructional/learning activities.

155. PSap(t); ePS; mPS

Conger, D. S., et al. (Comp.). Evaluations of life skills training. Prince Albert, Saskat.: Training Research and Development Station, 1974. (ERIC Document Reproduction Service No. ED 108 034)

The evaluations of the life skills course conducted by the various institutions offering the course; each evaluation is unique to the institution. Life skills are problem solving behaviors applied appropriately and responsibly to the management of one's life.

156. PSap(t)

Connelly, H. W. Applying the participation training system. Viewpoints, 1975, 51(4), 47-57.

Participation training (PT) system is divided into three main parts: (1) team building-helping learner develop skills for effective group participation; (2) applying group's skills-practice phase; and (3) "back-home" use-regular application of PT. The following guidelines will assist in making decisions to apply and, if necessary, work out adaptations

156. (cont'd)

of the PT system: (1) learn purposes and functions of each phase of the PT system; (2) recognize factors which influence the amount of time required for reaching goals of each phase of PT; (3) select competent trainers; (4) choose best possible physical environment; (5) plan for as many consecutive training sessions as possible; (6) recognize that there will be a difference between training groups made up of strangers and those composed of individuals who work together on a daily basis; (7) recognize purpose for modifying PT when design is altered for purposes other than originally given; and (8) plan for systematic evaluation of PT program.

157. PSap(t)

Conrad, M. F. Assumptions underlying an institute of participation training. Viewpoints, 1975, 51(4), 67-77.

Examination of four areas of participation training (PT) in terms of assumptions that underlie their structure: (1) design assumptions, (2) program planning assumptions, (3) team-building assumptions, and (4) application assumptions.

158. mPS

Coombs, D. D. (Comp.). Simulation and gaming: The best of ERIC. Stanford, Calif.: Stanford University, 1976. (ERIC Document Reproduction Service No. ED 126 891)

158. (cont'd)

Annotated bibliography of 101 items, selected from ERIC entries between 1972 and 1975, on simulation and gaming is structured in these nine sections: (1) theory and research; (2) social studies materials; (3) environment, land use, and planning; (4) language, communication, and reading; (5) business and economics; (6) political science and law; (7) vocational education; (8) science and mathematics; and (9) miscellaneous. Also included is a discussion of the constructs underlying simulation and gaming as well as a list of sources for additional information.

159. cPSpr(s); cPSen(c); cPSen(e); cPSen(s); mPS

Coping skill categories: Areas of information need for disadvantaged adults. Morehead, Ky.: Morehead State University, 1974. (ERIC Document Reproduction Service No. ED 098 977)

Coping skill is the ability to (1) recognize an everyday problem as an information need, (2) locate information in the problem area, (3) process and integrate the information, and (4) apply the information toward solving the problem. Coping skill categories, or subject areas, in which most adults need information to cope effectively with problems of everyday living are: aging, children, community, education, family, free time, health, home, jobs, legal rights, money management, moving, religion, transportation, and understanding self and others. Instrument

159. (cont'd)

for surveying needs of disadvantaged adults in community as a group is included in addition to a tool for assessing a library's collection for gaps in coping skills areas and categories for shelving a separate collection of coping skills materials.

160. mPS

Coping skills materials: A list of sources. Morehead, Ky.: Morehead State University, Appalachian Adult Education Center, 1974. (ERIC Document Reproduction Service No. ED 098 976)

List of publishers, agencies, associations, and organizations producing adult-oriented materials that are (1) free or inexpensive, (2) easy to read or use, and (3) contain information useful for solving problems. Sources are organized under 15 areas in which adults need to develop coping skills.

161. mPS

Cotner, S. Leisure reading selection guide for public library and adult education programs. Readability levels, annotation, physical format, source, cost. Morehead, Ky.: Morehead State University, 1973. (ERIC Document Reproduction Service No. ED 087 396)

Leisure Reading Selection Guide designed to serve as an aid

161. (cont'd)

in selection of materials for the undereducated adult; contains annotated list of high interest, low readability reading materials for adults.

162. mPS

Counseling and interviewing adult students. Washington, D. C.: National Association for Public Continuing and Adult Education, 1960.

Booklet includes (1) description of the duties of a counselor in an adult education program, (2) information about ways in which teachers can integrate counseling in their instructional programs, (3) suggestions to counselors, teachers and administrators on interview techniques, (4) checklists for teachers and adult students to help them see where they stand in relation to counseling needs and processes.

163. PSap(a); cPSpr(s)

Cowen, E. L., et al. Generalization of problem solving rigidity. Journal of Consulting Psychology, 1953, 17, 100-103.

Problem solving rigidity is a tendency to adhere to a set behavior when this behavior ceases to represent the most direct path to a goal. Study, with a sample of college undergraduates, in which pertinent variables were controlled indicated that rigidity did generalize and interfere with performance

163. (cont'd)

regardless of the nature of the problem solving task. Problem solving rigidity appears to be "personality related."

164. ePS

Cox, J. S. R. A study of the syntactic competence of adult beginning readers (Doctoral dissertation, University of North Carolina at Chapel Hill, 1975). Dissertation Abstracts International, 1976, 36(10), 6525A. (University Microfilm No. 76-9230)

Test designed to assess mastery of syntactic competence in reading was tried out with a sample of ABE students in a beginning reading course. Instrument discriminated within the ABE sample and between the ABE sample and a sample of literate adults.

165. ePS

Coy, J. R. J. Initial validation of the adult learning rate test (Doctoral dissertation, University of Northern Colorado, 1975). Dissertation Abstracts International, 1975, 36(2), 663-664A. (University Microfilm No. 75-16,835)

Determination of the criterion-related validity of the Adult Learning Rate Test (ALRT) by a study of the relationships between scores obtained by functionally illiterate adults on ALRT and reading gain scores measured by criterion tasks. The

165. (cont'd)

sample of adults, aged 17 to 65 years, attended ABE classes for a minimum of 100 hours. Scores on ALRT correlated moderately with reading scores and somewhat low with teacher judgments of learning rate of adult students. Factor analysis of ALRT scores revealed a social sense factor but not factors of specific knowledge, ability to function with common objects, identify relationships, or follow a sequence as hypothesized.

166. PSap(t)

Craig, R. H. A personal approach to teaching braille reading to youths and adults. New Outlook for the Blind, 1975, 69(1), 11-19.

Four phase approach to teaching braille to blind youths and adults designed to emphasize the development of good reading skills, especially through a 5-step process using graded materials: (1) short episodes-interest selections, simple and repetitive vocabulary; (2) context, familiar songs and poetry; (3) first books-longer episodes; (4) first press printed books; oral reading, learners follow; and (5) silent reading for comprehension. Planned series of lessons using taped instructions and taped slow readings of new materials for situations where teacher and pupil cannot meet.

167. ePS

Cronbach, L. J. How should we measure "change" - or should we?

167. (cont'd)

Psychological Bulletin, 1970, *74*, 68-80.

If true scores for individuals are desired multiple regression procedures rather than "gain scores" should be used. Detailed theoretical statement of this position is accompanied by illustrations.

168. PSap(k); PSap(t)

Daniel, E. A. The effect of knowledge of instructional objectives on affective and cognitive learning of adults in a religious education setting (Doctoral dissertation, University of Illinois at Urbana/Champaign, 1975). Dissertation Abstracts International, 1975, 36(1), 185-186A. (University Microfilm No. 75-14,098)

Study, with a sample of adults in a religious educational group setting exposed to six weeks of affective and cognitive learning under varying conditions of instruction, to determine the effect of knowledge of instructional objectives on performance. Analysis of pre- and posttest data indicates that knowledge of objectives, regardless of their nature (general, specific), focuses learning, resulting in greater understanding and appreciation of the subject area.

169. PSmo; PSap(a); PSap(t)

Daniels, P. B. Strategies to facilitate problem-solving. Provo, Utah: Brigham Young University, 1964. (ERIC Document Reproduction Service No. ED 001 142)

Report on a series of experiments designed to (1) develop a battery of insight problems for use in problem solving research, (2) replicate a training experiment to study transfer from a specific to a nonspecific situation, and (3) teach strategies for transfer of specific knowledge to nonspecific problem solving situations. Emphasis is on learning through

169. (cont'd)

a problem solving strategies model. Appeared that strategies cannot be learned for effective use in transfer without an accompanying new objective to be met by the strategies.

170. cPSpr(m); cPSen(c); cPSen(s)

Darkenwald, G. G. Some effects of the "obvious variable": Teacher's race and holding power with Black adult students. Sociology of Education, 1975, 48(4), 420-431.

Experimental article reporting effects of teacher's race and subject matter emphasis on dropout and attendance rates among Black students in nationwide big city adult basic education programs. Results of attitudinal questionnaire and self-rating index indicate that Black teachers are more successful than white teachers in preventing dropouts and maintaining high attendance as is true also for teachers of both races who rely heavily on a nontraditional approach. Sociocultural factors in the classroom, especially relating to relevant communication, underlie differential effectiveness in teaching innercity poor.

171. mPS

Dauw, D. C. Up your career. Prospect Heights, Ill.: Waveland Press, 1975. (ERIC Document Reproduction Service No. ED 126 334)

171. (cont'd)

Manual designed for adult readers with career or job questions. Chapters include both general and specific suggestions regarding development of life plans and personal skills, decision making, resumes, and interviewing.

172. PSap(t); mPS

Davidson, E. W. Operation COPE: Family learning center handbook with mothers who are heads of households. Washington, D. C.: National Council of Negro Women, 1975. (ERIC Document Reproduction Service No. ED 116 018)

173. PSap(t); mPS

Davidson, E. W. Operation COPE: Family learning centers for mothers who are heads of households. Washington, D. C.: National Council of Negro Women, 1975. (ERIC Document Reproduction Service No. ED 116 047)

Operation COPE is a family learning center serving disadvantaged low-income young mothers who head households. COPE offers ABE courses in which learners' expressed needs and interests determine the curriculum (e. g., typing, sewing, homemaking, and arts and crafts) taught to equip students for work. Reading and math. are incorporated in skills subjects. Counseling services are offered the ABE student and her family.

174. PSap(t); cPSpr(m)

Davis, G. A., & Roweton, W. E. Using idea checklists with

174. (cont'd)

college students: Overcoming resistance. Journal of Psychology, 1968, 70(2), 221-226.

Study designed to assess the effectiveness of a brief E-devised 7-item idea checklist in stimulating adult general problem solving abilities. Results indicate that the group using the index generated a larger number of higher quality ideas than a similar group not using the index. Authors advocate use of short checklists which provide general categories and allow the learner to use his own resources thus increasing motivation.

175. PSap(t); cPSpr(m)

Davis, G. F., Jr. A study of classroom factors related to dropouts. Adult Education, 1966, 17(1), 38-40.

Study to determine whether (1) teacher directed activities and/or attitude of participants toward the first class meeting related to subsequent dropout rates, and (2) selected teacher directed activities in first session related to attitudes toward this session. Sample consisted of 951 adults enrolled in classes dealing with survival problems in the event of a major disaster. Results indicate that neither teacher directed activities nor initial attitude of participants affected dropout rate. However, a personal approach, encouraging interaction on an equal level between teacher and pupil is suggested as a

175. (cont'd)

means of maintaining attendance. Teacher controlled activities found to be significantly related to subsequent attitude of participants toward first class session.

176. cPSpr(s)

Davis, J. K. Hypothesis testing as a function of an individual's cognitive style. Paper presented at the annual meeting of the American Educational Research Association, Chicago, Illinois, 1974. (ERIC Document Reproduction Service No. ED 101 010)

Influence of an individual's cognitive style (analytic or global) on hypothesis testing behavior was studied with 60 college students: 30 analytic and 30 global. Ss whose cognitive style was analytic solved more problems than did Ss whose style was identified as global. Analytic and global Ss had little trouble handling positive feedback; global Ss had more difficulty than analytic Ss handling negative feedback.

177. cPSpr(s)

Davis, J. K. Strategy development and utilization in concept identification as a function of an individual's cognitive style. Paper presented at the meeting of the American Psychological Association, New Orleans, La., 1974. (ERIC Document Reproduction Service No. ED 104 694)

177. (cont'd)

Extent to which analytic and global cognitive styles contributed to S differences in developing or using a selection type strategy in concept identification is investigated. A global and an analytic group of college student Ss solved concept identification problems. Analytic Ss solved significantly more problems using a focusing strategy than did global Ss.

178. PSap(t); cPSpr(s)

Davison, C. V. The effects of goal specifications and instructor behavior on information acquisition by adult learners (Doctoral dissertation, University of British Columbia, 1972). Dissertation Abstracts International, 1973, 34, 548A. (Order from National Library of Canada, Ottawa, Ontario, Canada)

Study examining the effects of direct versus indirect instructor influence and the use of goal or no-goal statements on information acquisition of adult learners. Flanders' interaction analysis was used to control instructor's statements and videotape to control presentation of learning material. Results indicate that neither the presence nor absence of goal statements nor kind of communication was a significant factor in learning. Subsequent analysis revealed that grade level, locus of reinforcement, and attitudes were significant factors contributing to learning.

179. PSap(t); ePS; mPS

Deep, D. Individualized learning for adults: The ILA Project. Adult Leadership, 1972, 20(8), 291.

Individualized learning materials incorporated into an easily managed instructional system that allows for accurate diagnosis of each student's learning needs are briefly described. (Additional information: Research for Better Schools, Inc., 1700 Market Street, Philadelphia, Pennsylvania 19103.)

180. PSap(t); cPSpr; cPSen

Dehaven, G. An investigation of the effects of a training program on the work performance of disadvantaged adults. (Doctoral dissertation, New York University, 1975). Dissertation Abstracts International, 1975, 36(5), 2766A. (University Microfilm No. 75-21,170)

Study measuring changes before and after employment in work values, self concept, and certain cognitive skills, resulting from disadvantaged adults' participation in a "work readiness" program. Participants in the program differed from a similar group of nonparticipants in stronger and more positive work values, self concepts, clerical skills, and work performances.

181. PSap(a); PSap(p)

Denney, D. R., & Denney, N. W. The use of classification for problem solving: A comparison of middle and old age. Developmental Psychology, 1973, 9(2), 275-278.

181. (cont'd)

Adults in two age groups, 26 to 46 years and 75 to 90 years, participated in a study of the affect of age on the use of logical classification for problem solving. Ss completed a game which required the use of constraint-seeking questions in problem solution. Performance deficits, which appeared in older Ss when compared to younger Ss, were largely attributed to the failure of the older Ss to base questioning strategies on any type of classification system.

182. PSap(a); PSap(p)

Denney, N. W., & Cornelius, S. W. Class inclusion and multiple classification in middle and old age. Developmental Psychology, 1975, 11(4), 521-522.

ANOVA experiment examined the class inclusion and multiple classification task performance of three groups of white middle-class Ss, middle-aged, community elderly, and institutionalized elderly, each group with equal numbers of male and female Ss of high and low educational levels. On both tasks the middle-aged Ss performed significantly better than the two combined elderly groups, and the community elderly Ss performed better than the institutionalized elderly Ss. On the multiple classification task, high education male Ss performed better than low education male Ss. There were no other significant differences between Ss' sex or educational levels.

183. PSap(a); cPSen(c)

Denney, N. W. Evidence for developmental changes in categorization criteria for children and adults. Human Development, 1974, 17, 41-53.

Backed up by literature, this article argued that between the ages of 6 and 9 there is a change from grouping elements according to complementary criteria to grouping elements by similarity criteria, and that there is a decrease in similarity and class name responses and an increase in complementary responses in adults over 40 when compared to adults under 40. It was concluded that transition to similarity criteria appears at the beginning of formalized education with its emphasis upon similarity relations and abstract thought. The failure of younger children and over 40 adults to use similarity criteria may not reflect an inability to do so, but an isolation from educational and occupational pressures to use less natural and obvious criteria.

184. PSap(p); PSap(t)

Denney, N. W., & Denney, D. R. Modeling effects on the questioning strategies of the elderly. Developmental Psychology, 1974, 10(3), 458.

Adults, 70 to 92 years, participated in a study of the use of questions in problem solving. Ss were assigned to one of three groups: exemplary modeling condition, cognitive-strategy model-

184. (cont'd)

ing condition, and control condition. Results were not consistent with explanations of problem solving deficits among the elderly as caused by neural degenerative processes; rather they appear to support a conclusion that a lack of environmental press exists for elderly individuals to use sophisticated and efficient problem solving approaches.

185. PSap(a); PSap(p)

Denney, N. W. Clustering in middle and old age. Developmental Psychology, 1974, 10(4), 471-475.

Comparative study between two age groups (70 to 90 and 30 to 60 years) of the (a) clustering and (b) organization (by complementary or similarity relationships) of data in memory. Middle aged Ss tended to cluster more than elderly Ss, but only when dealing with similarity relationships. Middle aged Ss also clustered more when dealing with similarity than with complementary relationships: a performance characteristic similar to children's rather than to college students'. No differences in organization appeared in performances of elderly Ss.

186. PSap(a); PSap(p)

Denney, N. W. Classification criteria in middle and old age. Developmental Psychology, 1974, 10(6), 901-906.

Two experiments designed to study the concept classification

186. (cont'd)

behavior of professional and nonprofessional men and women in two groups: middle aged and elderly. Outcomes indicate that occupation and education predisposes individuals to classify in a certain way; isolation from educational and occupational demands for abstract thought may lead to an increase in complementary-bound classification tied more to concrete operations.

187. PSap(a); PSap(p)

Denney, N. W., & Lennon, M. L. Classification: A comparison of middle and old age. Developmental Psychology, 1972, 7(2), 210-213.

Investigate the possibility of reversal or regression in free classification in the aged by comparing performances of a middle-aged group (38 years old) and an old-aged group (80 years old); Ss in middle-aged group were more highly educated and were native born. Based upon performances on classification tasks using geometric shapes, older Ss appear to use significantly more complementary relationships in classifying; middle-aged Ss, more similarity relationships. No data were available to determine whether the difference between groups was one of preference or lack of ability.

188. PSap(t); ePS

DePietro, A. H. An investigation of interaction analysis and

188. (cont'd)

selected school and student inputs toward the prediction of literacy achievement, attendance, and dropout incidence in adult basic education projects (Doctoral dissertation, Catholic University, 1975). Dissertation Abstracts International, 1975, 36(3), 1241A. (University Microfilm No. 75-18,530)

Teacher indirectiveness, entry literacy, type of instruction, employment oriented reasons for enrollment, age, sex, and formal educational attainment in the U. S. were selected predictor variables of students' literacy achievement, attendance, and dropout incidence in an experiment with 397 ABE students. Predictors allowed reasonable prediction of literacy achievement at the time the student enrolled in the project. Although not consistently significant among ethnic groups, students with more directive teachers tended to exhibit greater literacy achievement, better attendance, and less drop-out incidence, than students with more indirective teachers.

189. PSap(t); cPSen(c); cPSen(s)

Derbyshire, R. L. The sociology of exclusion: Implications for teaching adult illiterates. Adult Education, 1966, 17(1), 3-11.

Adult illiterates (i. e., the culturally excluded) are members of a large category of social minorities many of whom have a

189. (cont'd)

social, cultural, or racial background compounding the illiteracy problem. Exploration of these background factors and suggestions for teaching culturally excluded adults are presented. Teaching culturally excluded adults is a solution-finding process: as many alternate solutions as possible should be offered and the individual directed in finding his own solution while at the same time learning the process of solution finding. Education extends beyond the classroom: working with the family, caring for physical health, social and pschological needs. Individual student should be accepted for who he is and for existing behavior.

190. cPSpr(s)

Diab, L. N. Conformity and deviation: Two processes or one? Psychological Reports, 1968, 22(3), 1134-1136.

Argument that conformity and deviation are one process and always relative to the group norm, and that a deviation from one norm is actually conforming to another. Greater deviations from important norms create a need for support from another source to relieve increased feelings of instability and insecurity. Suggested that conformity or deviation is mostly determined by the individual's perception and evaluation of the group members supporting the particular norm as related to himself.

191. ePS

Diamond, J. J., & Williams, D. V. An identification of the process response to taxonomy-type test items. Paper presented at the annual meeting of the American Educational Research Association, Chicago Ill., 1972. (ERIC Document Reproduction Service No. ED 111 846)

A problem solving method for taxonomy-type test items describe three levels of responses: a level one response indicates agreement between actual and intended solution processes, a level two response indicates something close to level one but lacks a crucial element, and a level three response, characterized by vague generalities, indicates that the problem has been solved with a process other than the intended one.

192. mPS

Dick, W. An overview of computer-assisted instruction for adult educators. Tallahassee, Fla.: Florida State University, Computer-assisted Instruction Center, 1969. (ERIC Document Reproduction Service No. ED 033 611)

Discussion of the use of computer-assisted instruction (C-AI): drill-and-practice, tutorial, and problem solving activities, in adult education includes a detailed statement under each C-AI subcategory describing its primary use in activities promoting adult learning.

193. cPSpr(m); cPSpr(a); ePS

193. (cont'd)

Dickinson, G., & Clark, K. M. Learning orientations and participation in self-education and continuing education. Adult Education, 1975, 26(1), 3-15.

Six hypotheses about the relationship between learning orientation, i. e., goal-, learning-, or activity-oriented, and types of activities within which purposeful learning can occur, i. e., self- and continuing- or adult-education, were tested using a sample of 220 F registered nurses. Ss completed Sheffield's Continuing Learning Orientation Index (CLOI) plus an E-devised index of learning activities and a questionnaire. Data supported hypotheses of strong positive relationships between learning orientation and participation in self-education and in continuing-education. Factor analysis of CLOI yielded a strong learning orientation factor, three factors related to goal orientation, and three related to activity orientation. (Ref.: Sheffield, S. B. The orientations of adult continuing learners. In S. B. Sheffield. The Continuing Learner. Chicago: Center for the Study of Liberal Education for Adults, 1964.)

194. mPS

Dickinson, G. Teaching adults: A handbook for instructors. Toronto, Canada: New Press, 1973. (ERIC Document Reproduction Service No. ED 095 356)

Book designed to assist instructors of adults. Topics covered

194. (cont'd)

include: nature of adult, learning, adult characteristics which affect learning, course planning processes, principles and techniques of instruction, and evaluation of adult learning.

195. cPSpr(m); cPSpr(a)

Dickinson, G., & Verner, C. Attendance patterns and dropouts in adult night school classes. Adult Education, 1967, 17(1), 24-33.

Survey of 2,075 adults in public night school classes to determine factors motivating adults to continue and complete course work revealed better attendance for courses of general interest and those of less than ten sessions. Age, marital status, dependents, occupation, and previous participation in adult education were statistically significant characteristics which differentiated between persisters and nonpersisters, while education, sex, years of residence in an area, and travel did not differentiate. When tested by subject matter and course content, sex, age, marital status and previous participation showed no significant differences, however number of children, education, and occupation showed variations by length, and occupation showed variation by subject matter.

196. PSap(t); cPSpr(m)

Dill, W. R., Crowston, W. B. S., & Elton, E. J. Strategies for

196. (cont'd)

self-education. Harvard Business Review, 1965, 43(6), 119-130.

Seventy young adults, who faced the challenge of self-education were surveyed on their strategies for learning and their perceptions of their chances for success in learning. Choice of learning approach did not vary with the nature of the problem but did vary with the abilities, preferences, and experiences of the respondents. Overall, principles for self-education which emerged included (1) goal-oriented study and evaluation of results, (2) willingness to accept new means of problem solving, and (3) integration of new knowledge and experience. Employers were perceived as frequent blocks to self-education attempts through indifference, antagonism to new ideas, and unwillingness to make adequate provision for education.

197. PSap(t)

Dillon, P. C., et al. Brainstorming on a "hot" problem: A comparison of individual and group results. Berkeley, Calif.: University of California, 1975. (ERIC Document Reproduction Service No. ED 054 496)

ANOVA experiment studied the effects of video-tape training and practice in brainstorming on individual versus group brainstorming performance with 96 male and female volunteer univer-

197. (cont'd)

sity students. Superiority of individuals over groups was clearly demonstrated. Superiority of video-tape interaction with individual or group conditions was not demonstrated.

198. cPSen

Dobbs, R. C. Self-perceived solutions to adult problems. Journal of Educational Research, 1971, 64(7), 315-318.

Self-perceived problems, and self-perceived ways to solve these problems were studied in 100 adult Ss, all heads of households in a declining and non-declining community. Over one-third of the total problems found in the declining community were economic, while the largest single type of problem in the non-declining community was of a physical nature. Health and educational problems were viewed similarly. In the declining community 44% of the expressed ways to solve problems were educational, while in the non-declining community the largest category under ways to solve problems was improved economic opportunities.

199. cPSpr(m); mPS

Dobbs, R. C. Handles for holding power in adult teaching. Adult Leadership, 1970, 18(10), 315-316.

Curriculum, implemented through the use of "real life" experiences which are selected based upon specific group or individual adult learner needs, tends to be perceived by adults as a

199. (cont'd)

learning experience and appears to be related to lower dropout rates. Suggestions for integrating "real life" experiences into curriculum, which can be implemented by flexible teachers, are presented.

200. cPSen

Dobbs, R. C. Self-perceived educational needs of adults. Adult Education, 1966, 16(2), 92-100.

Personal interview study determined self-perceived educational needs of 100 adult Ss, most with less than a high school education, from a declining and a non-declining community. Ss perceived educational needs as secondary to economic needs, but the majority perceived that adult education programs should be provided to meet these needs and deal with problems concerning economic development. A program of literacy and fundamental education should be made available for adults with less than an eighth-grade education.

201. PSap(t)

Dolan, S. L. The effect of value-conflict discussion on the critical thinking and reading of adults. Pittsburgh, Pa.: University of Pittsburgh, 1976. (ERIC Document Reproduction Service No. ED 132 543)

Experimental study of the effect of debate about textual issues on critical thinking and reading comprehension in which 30

201. (cont'd)

Black adult students participated. Data gathered after the completion of 24 2-hour sessions of reading instruction indicated a trend for greater improvement in reading comprehension for "debate" group when performance was compared to that of a "traditional" instruction group.

202. ePS

Donlon, T. F., & Fischer, F. E. An index of an individual's agreement with group-determined item difficulties. Educational and Psychological Measurement, 1968, 28(1), 105-113.

Description of "Personal Biserial Index" designed to yield a correlation between a person's distribution of item difficulties on a specific test and the distribution of item difficulties generated by some reference group. Index is derived from the correlation between the row of responses by a person and a row of criterion scores, the criterion scores being the item difficulty indices.

203. PSap(t)

Doten, G. W., Cockrell, J. T., & Sadacca, R. The use of teams in image interpretation: Information exchange, confidence and resolving disagreements. Human Factors, 1968, 10(2), 107-116.

Three experiments designed to assess a system of within-team

203. (cont'd)

checking on performance in two-man teams and the introduction of a third person (an interpreter) in instances of conflict resolution.

204. cPSpr(m)

Douglah, M. Some perspectives on the phenomenon of participation. Adult Education, 1970, 20(2), 88-98.

Summary of motivational bases of participation by adults in education reviewed the concept models of Maslow's Need Hierarchy, Maslow's Need Hierarchy related to social structures and forces in society, concept of developmental tasks, concept of learning orientations, and satisfaction of desires. It was concluded that adult education must serve purposes based on the needs of clientele, and that these purposes must rank very high on the adult students value scale. Benefits derived must be sufficiently important to compete with alternative programs.

205. cPSpr(a); cPSpr(s); cPSen(s)

Douglah, M., & Moss, G. Differential participation patterns of adults of low and high educational attainment. Adult Education, 1968, 18(4), 247-259.

Survey studied the influence of selected positional and psychological factors on the adult education participation of 274 adults of low education (less than 12 years of school) and 128 adults of high education (more than 12 years of school). Par-

205. (cont'd)

ticipation by low educational status adults was influenced by age, employment status, income, family status, and withdrawal tendencies, while participation by high educational status adults was influenced only by social skills, and these only marginally.

206. mPS

Douglas, W. W. English and the 70's. Evanston, Ill.: Northwestern University, 1970. (ERIC Document Reproduction Service No. ED 063 320)

207. mPS

Douglas, W. W. English and the 70's: Part I: "Prolegomena for curriculum builders." Evanston, Ill.: Northwestern University, 1971. (ERIC Document Reproduction Service No. ED 063 311)

208. mPS

Douglas, W. W. English and the 70's: Part II. Evanston, Ill.: Northwestern University, 1970. (ERIC Document Reproduction Service No. ED 063 317)

209. mPS

Douglas, W. W. English and the 70's: Part III. Evanston, Ill.: Northwestern University, 1970. (ERIC Document Reproduction Service No. ED 063 318)

210. mPS

Douglas, W. W. English and the 70's: Part IV: Approaches

210. (cont'd)

to English I. Evanston, Ill.: Northwestern University, Curriculum Center in English, 1970. (ERIC Document Reproduction Service No. ED 063 319)

Collection of teaching materials, e. g., lesson plans, assignments, and methodological suggestions for individualizing the English curriculum, developed to encourage curriculum change through changing teacher attitudes and approaches to instruction. (Principles of development, but not the specific materials which are intended for junior high and high school, have potential for adaptation to adult education.)

211. PSmo; PSap(a)

Downing, B. D. Salience and learning rate in concept identification. Psychonomic Science, 1968, 10(2), 73-74.

Test of the "Concept Identification Model" of Bower and Trabasso (1964): rate of learning dependent on salience or attention value of relevant as compared to all cues. Twenty-six adult Ss completed a concept identification task, designed to predict learning rate, under two conditions. While results were inconclusive, some support for the model was available.

212. PSmo; mPS

Draft of abridged report of the Estes Park Conference on learning through investigation and action on real problems in

212. (cont'd)

secondary schools. Newton, Mass.: Education Development Center, Inc., 1973. (ERIC Document Reproduction Service No. ED 096 065)

Model for the development of a comprehensive problem solving curriculum for secondary school students focusing on relevant problems of this age group and on solutions that can be put into action. Process rather than content, flexibility, and interaction with the community are emphasized. Inclusion of problem solving activities as part of a school's activity period recommended: problem solving techniques applied to "every-day" events. (Conceptual base and procedures have relevance for adult education.)

213. cPSpr(s)

Dreger, R. M. General temperament and personality factors related to intellectual performances. *Journal of Genetic Psychology*, 1968, *113*(2), 275-293.

Relationships between personality factors (measured by Cattell's *IPAT 16-PF Test*) and academic achievement in a sample of college students distinguished high from low achievers, i. e., relationships described by behaviors expressing quickness of decision, confidence, self-control, and determination. Low achievers were characterized by timidity, anxiety, and frustrated apathy.

214. mPS

214. (cont'd)

Driver's education handbook adapted for adult basic education students. Tallahassee, Fla.: Florida State University, 1975. (ERIC Document Reproduction Service No. ED 102 351)
Driver education handbook written, at a fourth grade reading level, for ABE students of limited reading skills who want to get a driver's license. Handbook allows the learner to advance through a series of modules at his own pace, contains comprehension and vocabulary exercises on topics related to driving, and includes tests for learner self-evaluation.

215. PSmo

Dubin, S. S., & Okun, M. Implications of learning theories for adult education. Adult Education, 1977, 24(1), 3-19.
Review of cognitive, behavioristic, and neo-behavioristic learning theories and a discussion of the following eight models each of which has been derived from one of the three theories: operant conditioning, drive reduction, neuro-physiological, social learning, learning systems, discovery learning, reception learning, and nondirective teaching. Each model, which is ascribed to a key theorist, is analyzed by (1) key concepts, (2) role of instructor, (3) amount of structure, and (4) appropriate conceptual level. Three technologies of instruction are reviewed also: (1) conceptual systems approach,

215. (cont'd)

(2) process model, and (3) updating approach. No one theory, model, or technology seems to have "the greatest" potential for research and instruction in adult education. Suggestions for needed research related to adult education are given.

216. cPSps(m)

Dubin, S. S., & George, J. L. Motivational determinants for adult learning. Paper presented at the Adult Education Association, Research Conference, 1972. Chicago, Ill., 1972. (ERIC Document Reproduction Service No. ED 062 602)

Questionnaire survey to determine specific motivational behaviors for the learning process, "keeping-up-to-date." Five determiners of adult motivation were rank ordered based upon responses from 5,600 Ss: personal ambition and goals, on-the-job problem solving, organizational climate, discussion with colleagues, and supervisor behavior.

217. cPSpr(a); cPSpr(s)

Dunlop, D. L., & Fazio, F. The role of abstract preferences in determining student behavior in problem solving tasks within a Piagetian framework. Philadelphia, Pa.: National Science Teachers Association, 1976. (ERIC Document Reproduction Service No. ED 120 126)

Relationship between cognitive developmental level (as measured

217. (cont'd)

by the Shipley Test of Abstract Reasoning) and solution approach to problem (as measured by E-devised problems based upon degree of formal thought required to implement a given problem solving strategy) was studied in male and female high school students. The generally more successful problem solving formal operational group had significantly higher abstract ability than the concrete operational group, but there was no significant difference between the two groups regarding their abstract preference for problem solving. Concrete Ss who preferred an abstract problem solving strategy were unsuccessful, however when studying successes for those who preferred a concrete approach, the concrete Ss were almost as successful as the formal Ss. There were no significant sex differences.

218. ePS

Dunn, J. A. Anxiety, stress, and the performance of complex intellectual tasks: A new look at an old question. Journal of Consulting & Clinical Psychology, 1968, 32(6), 669-673.

ANOVA experiment analyzed the effects of test anxiety (as measured by a form of Sarason's Test Anxiety Scale for Children developed for older Ss) and E-induced test stress on WAIS Information and Digit Span Subtests performance by 176 men and women college juniors. High test anxiety resulted in a significant decrement in Information scores but not in Digit Span scores, and under

218. (cont'd)

high stress the converse was true: stress disrupted Digit Span performance but not Information performance. A significant correlational effect indicated a relationship between anxiety and Information test scores under a stress but not under a non-stress condition. ANOVA did not suggest this interactive effect, with results indicating that the difference in Information test scores was due to anxiety alone.

219. ePS

Dupont, J. B., Frischknecht, E., & Gendre, F. Mechanics apprentices. Psychologie: Schweizerische Zeitschrift fur Psychologie und ihre Andwendungen, 1974, 33(4), 335-369.

Factor analysis of the performance of two samples of apprentice candidates (145 and 191 Ss) in six mechanical trades using psychometric tests and sociopsychological questionnaires. Two group factors were found: solution of scholastic and mechanical problems of an abstract nature and a practical intelligence applied to concrete objectives. Tests were predictive of success in manual ability and practical intelligence, and showed satisfactory validity for prediction of success in logical reasoning, arithmetic reasoning, and technical problems.

220. PSap(t); mPS

Easley, E. M. Hardware and software in corrections education. Storrs, Conn.: Connecticut University, 1972. (ERIC Document Reproduction Service No. ED 068 743)

Discussion of the purposes, availability, and advantages and disadvantages of hardware and software for use by ABE students in correctional institutions is related to the learning constructs of B. F. Skinner. Uses of hardware and software are related to the environmental constraints of the learning setting.

221. cPSpr(m)

Easley, E. M. Findings of a drop-out prevention study of the Spartanburg City Schools and resultant recommendations. Spartanburg, S. C.: CES/Communication and Education Services, Inc., 1971. (ERIC Document Reproduction Service No. ED 060 462)

Issues in relating curriculum to individual student needs and goals are considered in relation to recommendations for drop-out prevention. Recommendations include one for the establishment of a comprehensive Secondary Academy and Adult Education Center offering classes for high school credit.

222. mPS

Edelstein, A. S. The uses of communication in decision-making: A comparative study of Yugoslavia and the United States.

222. (cont'd)

Special Studies in International Politics and Government.
New York, N. Y.: Praeger Publishers, 1974.

Interview survey of a sample of 2,500 adults from Seattle, Belgrade, and Ljubljana, to determine the importance of various mass media in individual problem solving and decision making, found the sources of information used by respondents in solving "important" problems were newspapers and television, in that order.

223. PSap(t); mPS

Educational change: Implications for measurement. Proceedings of the 1971 Invitational Conference on Testing Problems. Princeton, N. J.: Educational Testing Service, 1972. (ERIC Document Reproduction Service No. ED 065 545)

Discussion of three ways of broadening educational opportunities, i. e., vocational and technical training and "schools without walls," and the implications of each of these for evaluation and measurement, related to adult education.

224. PSap(t); mPS

Edwards, M. O. A survey of problem-solving courses. *Journal of Creative Behavior*, 1968, *2*(1), 33-51.

Questionnaire survey of 43 organizations (industrial corporations, consulting firms, government agency, research corporation, and

224. (cont'd)

universities and colleges) offering problem solving courses yielded information that all have courses which teach abilities associated with creativity, innovation, and creative problem solving by lecture, demonstration, group discussion, and exercises plus specialized techniques.

225. PSap(a)

Egan, D. E. The structure of experience acquired while learning to solve a class of problems. (Doctoral dissertation, University of Michigan, 1973). Dissertation Abstracts International, 1974, 35(1), 538B. (University Microfilm No. 74-15,712)

Problem solving simulation study in which the effects of cues on Ss' performances were studied and inter-problem transfer analyzed. Problem difficulty was found to be related to the amount of memory needed and the number of subgoals necessary. Experience with problem solving was found to facilitate transfer: solution planning was learned during practice and transferred to the similar problem situation.

226. PSap(a); PSap(t)

Eimas, P. D. Effects of memory aids on hypothesis behavior and focusing in young children and adults. Journal of Experimental Child Psychology, 1970, 10(3), 319-336.

226. (cont'd)

Samples of undergraduates and of young children worked a series of blank trial problems presented under four conditions for the purpose of studying the process of focusing behavior in problem solving. Results indicated that deficiencies in focusing appeared to be a function of unavailability of information, rather than an absence of knowledge of the necessary rules. Improvements in focusing were matched by higher levels of performance on the component processes of coding, recording, and retention of remote outcomes information.

227. PSap(a); PSap(p); cPSpr(s)

Eisdorfer, C. Verbal learning and response time in the aged. Journal of Genetic Psychology, 1965, 107, 15-22.

Sample of male Ss, 60+ years, completed a verbal learning task in an experiment to determine whether increasing stimulus time in a learning situation helps the older learner because of additional time to view the stimulus material or whether another factor, secondary to pacing, is involved. Rapid stimulus pacing was found to be associated with a decrease in verbal learning but this could not be interpreted as a simple function of Ss' inability to respond during given time.

228. mPS

Elements of mathematics, Book B: EM Problem Book. St. Louis, Mo.: Central Midwestern Regional Educational Laboratory, 1974.

228. (cont'd)

Set of 200 math. problems, requiring no training beyond the elementary level but requiring careful analysis and ingenuity, in which each problem is labeled by one of five levels of difficulty, is contained in this monograph.

229. PSap(a); PSap(p); cPSpr(s)

Elias, M. F., & Kingbourne, M. Age and sex differences in the processing of verbal and nonverbal stimuli. Journal of Gerontology, 1974, 29(2), 162-171.

Two groups of Ss at each of two age levels, 63 to 77 and 23 to 33 years, participated in a study of age and sex differences in the processing of verbal and nonverbal material. Overall, Ss in the younger group were better at processing both types of material. Men were better than women at both age levels in the processing of nonverbal material; a finding attributed to practice, stereotyped behavior and/or genetic predisposition.

230. PSap(t); cPSpr(a); cPSpr(s)

Elliott, P. H. An exploratory study of adult learning styles. (Doctoral dissertation, University of Chicago at Urbana/Champaign, 1975). Dissertation Abstracts International, 1976, 36(9), 5737-5738A. (University Microfilm No. 76-6757)

Two groups of adults (average age 29 years), one with some prior knowledge of the subject and one without, participated in a series of lessons on learning the metric system as part of

230. (cont'd)

an experiment designed to gather preliminary data about the stability and individuality of learning styles of adults. Data supported the hypothesis of individualized and stable learning styles among adult Ss. From the data available it was not possible to differentiate between styles in terms of effectiveness.

231. cPSen(c); cPSen(s); mPS

Enright, C. Paulo Freire and the maiden city. Adult Education (London), 1975, 47(6), 352-356.

Description of the Adult Literacy Scheme which has its theoretical foundation in the concepts of P. Freire and is designed to compensate for social and cultural factors affecting learning of illiterate adults.

232. PSap(t); mPS

Equal employment opportunity counseling. Washington, D. C.: Civil Service Commission, Bureau of Training, 1974. (ERIC Document Reproduction Service No. ED 099 762)

Techniques of counseling directed toward informal resolution of complaints of discrimination are taught to adults through lecture and role play sessions simulating actual complaints.

233. PSap(t); cPSpr(a); cPSpr(s)

Estrine, L. The effectiveness of linear versus branching pro-

233. (cont'd)

grammed instructional methods in adult cognitive learning (Doctoral dissertation, Boston University, 1975). Dissertation Abstracts International, 1975, 36(3), 1378A. (University Microfilm No. 75-18,534)

Evaluation of the effectiveness of linear versus branching programmed instruction versus narrative text for cognitive learning of a heterogeneous sample of adults, aged 18 to 57 years, is described.

234. cPSpr(a); cPSpr(s); cPSen(c); cPSen(e); cPSen(s)

Etter, D. C. Adult learner characteristics and instructional objectives (Doctoral dissertation, University of California, 1969). Dissertation Abstracts International, 1970, 30(11), 4754A. (University Microfilm No. 70-8140)

Two experiments, with samples of male and female learners, average age 37 years, to explore interactions among stated instructional objectives, advanced organizers, and personal characteristics and performance on a programmed instruction task. Socioeconomic status and verbal ability accounted for most of the performance differences. Instructional objectives should be viewed as appropriate or inappropriate for categories of learners rather than as generally effective or ineffective.

235. mPS

Eyster, G. W. Non-formal library training institutes. Morehead,

235. (cont'd)

Ky.: Morehead State University, 1976. (ERIC Document Reproduction Service No. ED 126 905)

236. mPS

Eyster, G. W. Institute series for developing public library services for disadvantaged adults. Morehead, Ky.: Morehead State University, 1975. (ERIC Document Reproduction Service No. ED 111 411)

237. mPS

Eyster, G. W. The coordination of library and basic education services for disadvantaged adults: A demonstration of four alternative working models. Morehead, Ky.: Morehead State University, 1975. (ERIC Document Reproduction Service No. ED 111 410)

238. mPS

Eyster, G. W. The coordination of library and basic education services for disadvantaged adults and expanding public library services to disadvantaged adults. Morehead, Ky.: Morehead State University, 1975. (ERIC Document Reproduction Service No. ED 112 885)

Description of the Appalachian Adult Education Center (AAEC) library training institutes which were established for the purpose of developing services for ABE students. A series of guides and a multi-media kit on public library services for ABE students were developed.

239. cPSpr(a); cPSpr(s)

Fakouri, M. E. Cognitive development in adulthood: A fifth stage? Critique. Developmental Psychology, 1976, 12(5), 472.

Problem-finding is related to cognitive content rather than cognitive structure: problem-finding is one of Guilford's divergent production indices; divergent thinking can be improved by practice. Cognitive operations of problem solving, made synonymous with formal operations, and of problem-finding are not as qualitatively different from each other as those at the concrete operations stage from those at the formal operations stage. Piaget hypothesizes selective manifestations of operational stages (see Human Development, 1972, 15, 1-12).

240. cPSen; mPS

Family life education for Yeatman neighborhood service center program. Jefferson City, Mo.: State Department of Public Health and Welfare, 1970. (NTIS No. PB-209 246)

Problem solving groups designed to help improve family life, especially family relationships and child rearing, were offered to poverty area residents. Four types of groups were used: adult, adolescent, single family members, and counseling group for girls.

241. ePS

Farmer, J. A., Jr. Strengthening a design for evaluating a

241. (cont'd)

broad-aimed functional literacy and family life education program. Literacy Discussion, 1974, 5(3), 421-440.

Discussion of styles of evaluation design and methodologies which appear to be appropriate for, and include assistance in, social problem solving by adults.

242. PSmo; cPSen

Farmer, J. A., Jr., et al. Developing community service and continuing education programs in California higher education institutions. Sacramento, California: California State Coordinating Council for Higher Education, 1972. (ERIC Document Reproduction Service No. ED 069 944)

Discussion of the effectiveness of federal support to higher education institutions for community support and continuing education programs to help solve community problems and strengthen and improve community service and continuing education programs. Traditional categories of continuing education offerings have been: agricultural extension model; community development; community services in the community colleges; and public service in higher education institutions, generally. Six alternate Involvement Models have emerged: faculty, student, agency, target population, transactive, and comprehensive.

243. cPSpr(a); cPSpr(s)

Farrell, M. Formal stage: A review of the research. Journal

243. (cont'd)

of Research and Development in Education, 1969, 3, 111-118. Critical analysis and summary of data from review of literature on the formal operations stage is presented.

244. PSap(t); mPS

Federally funded adult basic education programs. A study of adult basic education programs in ten states. New York: Xerox Corporation, 1967. (NTIS No. PB- 177 210)

Detailed description of ABE programs, including curricula and evaluation techniques, offered in California, Georgia, Illinois, Louisiana, New York, North Carolina, Ohio, Pennsylvania, Texas, Virginia.

245. PSap(t)

Feeney, E. J. Performance audit, feedback and positive reinforcement. Training and Development Journal, 1972, 26(11), 8-13.

Report on a demonstration of the way in which three basic management tools: performance audit, feedback, and positive reinforcement, combine for effective performance improvement. Participants define and work with on-the-job problems rather than attending a course on production; receive on-the-job stimuli and on-the-job responses which relate to the formation of workable programs.

246. mPS

Feingold, N. S., Hausman, H. J., Greenfield, P. O., Epstein, A., & Tucker, T. S. Resources: Recommendations for adult career education. Silver Springs, Md.: Applied Management Sciences, Inc. and Washington, D. C.:B'nai Brith, Career and Counseling Service, 1975. (ERIC Document Reproduction Service No. ED 110 854)

Abstracts of written and audio-visual career materials suitable for adults which describe a wide range of occupations. Information supplied to enable user to make judgments as to appropriateness of materials for particular adult education requirements (e. g., ABE or continuing education). Abstracts under 16 occupational categories are divided according to reading levels.

247. ePS

Feldhusen, J. F., Houtz, J. C., & Ringenbach, S. The Purdue Elementary Problem-Solving Inventory. Psychological Reports, 1972, 31(3), 891-901.

Inventory developed to assess 12 specific problem solving abilities in disadvantaged children of differing ethnic backgrounds in grades 1 through 6. Abilities assessed are: sensing the problem, identifying the problem, asking questions to clarify the problem, guessing causes, clarifying goal from alternatives, judge if more information needed, analyze details and identify

247. (cont'd)

critical elements of the problem, redefinition or transformation, seeing implications, verification of solution, solving single solution problem, solving multiple solution problem. (Ed.: instrument for use with children; construct could have applicability to development of instrument for use with adult populations.)

248. PSap(t)

Felker, D. B., & Dapra, R. A. Effects of question type and question placement on problem-solving ability from prose material. Journal of Educational Psychology, 1975, 67(3), 380-384.

Effectiveness of (1) question type: (a) verbatim, statements taken literally from instructional material, or (b) comprehension, paraphrases which are equivalent in meaning to instructional material, and (2) question placement: (a) prequestion, interspersed within material, or (b) postquestion, inserted after material, on solving problems from prose material was studied with a sample of 95 college students. Comprehensive postquestions were most effective in promoting problem solving from prose material. The type of question appeared to be more important than the placement of the question.

249. ePS; mPS

Fieldman, R. Developing instructional materials to aid in

249. (cont'd)

implementing the "Wisconsin Guide to Local Curriculum Improvement in Industrial Education, K-12." Madison, Wis.: Wisconsin University, 1975. (ERIC Document Reproduction Service No. ED 111 992)

Summarizes project activities in which instructional materials were developed to aid in implementation of curriculum improvement in industrial education. Twenty-six field tested and 13 non-field tested instructional packages which include problem solving activities in a variety of subject categories are provided as are evaluation questions for the materials. (Ed.: materials designed for high school; constructs can be adapted for adult education.)

250. ePS; mPS

Field test and evaluation of selected adult basic education systems. New York: Greenleigh Assoc., 1966. (ERIC Document Reproduction Service No. ED 011 090)

Description of the findings of a field test of four reading systems developed for functionally illiterate adults: Learning to Read and Spell, Reading in High Gear, Mott Basic Language Skills Program, and Systems for Success. Criteria for evaluating the systems were: short-term change in reading level; ability to qualify for occupational training at available job opportunities; ability to meet adult responsibilities; highly teach-

250. (cont'd)

able systems, requiring least possible skill, plus capacity to withstand poor teaching; flexibility in accommodating learners with varying literacy levels and educational backgrounds; level of interest; feasibility; contribution to the positive education and social experience of learners.

251. ePS; mPS

Finch, C. R. Self-instructional methods of teaching diagnostic problem solving to automotive students. Vocational-Industrial Education Research Report. University Park, Pa.: Pennsylvania State University, Dept. of Vocational Education, 1969. (ERIC Document Reproduction Service No. ED 030 735)

ANCOVA study designed to investigate the effects of three methods of teaching diagnostic problem solving, i. e., troubleshooting, to automotive students: equipment, programmed, or textbook oriented instruction. Data from an attitude inventory, knowledge test, and troubleshooting performance test indicated no difference among Ss' knowledge and attitudes. However, the equipment oriented group required the shortest instructional time and performed significantly better on the troubleshooting performance task than the other two groups. (Sample instructional materials and tests included.)

252. PSap(a); cPSpr(s); ePS

Fingerman, P. W., et al. Methods for predicting job-ability

252. (cont'd)

requirements: 3. Ability requirements as a function of changes in the characteristics of a concept identification task. Washington, D. C.: American Institutes for Research in the Behavioral Sciences, 1975. (ERIC Document Reproduction Service No. ED 109 201)

College students participated in a study of the interaction among ability factors, perceptual complexity, and problem difficulty in affecting successful completion of a concept identification task. In general, Ss performed better with increased complexity on easy problems; worse as complexity increased on difficult problems. Efficiency improved as complexity increased regardless of problem difficulty. No direct relationship was evident between perceptual complexity and proportion-solved measure.

253. mPS

Fisk, R. S. Some applications of modeling in mathematics for two-year colleges. Two-Year College Mathematics Journal, 1975, 6(4), 10-13.

Four problems in which elementary math. theory can be used in constructing models for problem solving are described.

254. PSap(p); PSap(t); cPSpr(a)

Fitzgerald, T. P. Auditory versus visual presentation of

254. (cont'd)

connected discourse with various levels of difficulty for educationally disadvantaged adults with differing abilities (Doctoral dissertation, SUNY-Albany, 1975). Dissertation Abstracts International, 1975, 36(6), 3350A. (University Microfilm No. 75-25,774)

Disadvantaged adults, reading levels at fifth or seventh grades, participated in an ANOVA study of the effects of level (4th, 6th, or 8th-grade) and presentation mode (visual or auditory) on the comprehension of instructional material. Ss with higher initial reading level recorded superior performances for both presentation modes and the three reading levels of materials when compared to Ss with lower initial reading level. Visual presentation mode resulted in higher recognition patterns for both groups at all three levels of materials.

255. PSap(t); ePS

Fivars, G. The critical incident technique: A bibliography. Palo Alto, Calif.: American Institutes for Research in the Behavioral Sciences, 1973. (ERIC Document Reproduction Service No. ED 091 501)

Bibliography of 600+ references in which the critical incident technique has been applied to the solution of practical problems.

256. cPSpr(s)

Flavell, J. H. Cognitive changes in adulthood. In L. R. Goulet,

256. (cont'd)

& P. B. Baltes (Eds.). Life-Span Developmental Psychology. New York: Academic Press, 1970. Pp. 247-253.

Cognitive changes during the adult years have barely begun to be studied. The most important of these changes are probably the result of life experiences and, if so, would not exhibit the across-subjects uniformity that characterizes children's cognitive growth. Adult cognitive changes appear to concern the social-interpersonal world and have to do with judgments, attitudes, and beliefs rather than skills; could be characterized as personality rather than cognitive phenomena, but they do demand cognitive activity, at least to the level of concrete operations.

257. mPS

Fleming, L. D. Proceedings of the conference 'Adult Basic Education and Public Library Service'. Tallahassee, Fla.: Florida State University Library, 1974. (ERIC Document Reproduction Service No. ED 116 647)

Bibliography of instructional and other materials for adult education as well as a description of library services available specifically for adult education needs are included in this report.

258. PSap(t); cPSpr(s); mPS

Floyd, J. R. Stimulus-support in programmed instruction: Adult

258. (cont'd)

learners vis-à-vis school children (Doctoral dissertation, North Carolina State University, 1971). Dissertation Abstracts International, 1973, 33(8), 3915B. (University Microfilm No. 73-1863)

Comparison of performances of ABE students and 6th-grade students on programmed instruction materials with varying step sizes: 1, 3, 7, 12-step frames. An age x program (step size) interaction was found in immediate posttest data, intervening variables of tension and anxiety. A new learning variable was developed: R-ratio (retention), to look at kinds of errors which occur in programmed instruction and relationships among immediate gains and losses observed over time.

259. PSmo; ePS

Forehand, G. A. Individual differences in problem solving processes of college students. Pittsburgh, Pa.: Carnegie-Mellon University, 1967. (ERIC Document Reproduction Service No. ED 017 004)

Report of research designed to (1) develop measurement techniques for assessing individual problem solving processes, (2) develop ways of describing individual's ability by describing problem solving processes, and (3) compare concepts from information theory with study of individual differences. System used emphasized type of analysis, type of information

259. (cont'd)

sought, and three types of problem strategies; response pattern is described on nine characteristics. Causes of individual differences among responses are explored; individual response profiles are matched with problem solving models.

260. PSap(p); PSap(t); cPSpr(s); cPSen(s)

Forman, M. Conflict, controversy and confrontation in group work with older adults. Social Work, 1967, 12(1), 80-85.

Descriptive study of group experience designed to stimulate older adults to move toward independence and active problem solving and decision making as well as an active participation in community affairs is presented.

261. PSap(a); PSap(t); cPSpr(a); cPSpr(s)

Frandsen, A. N., & Holder, J. R. Spatial visualization in solving complex verbal problems. Journal of Psychology, 1969, 73, 229-233.

Adults and college students participated in an experimental study the results of which indicated that instruction in spatial visualization can increase ability to solve complex verbal problems which make use of that aptitude.

262. ePS

Frederiksen, N., & Ward, W. C. Development of measures for the

262. (cont'd)

study of creativity. Princeton, N. J.: Educational Testing Service, 1975. (ERIC Document Reproduction Service No. ED 128 442)

Detailed report describes the development of a set of tests for use as provisional criterion measures in the study of scientific thinking, particularly divergent thinking.

263. cPSpr(s); cPSen(c)

Freedman, D. A. Relation of language development to problem solving ability. Bulletin of the Menninger Clinic, 1972, 36(6), 583-595.

Emergence of language, like the ability to think and solve problems, is the result of a series of developmental steps. The two developmental processes are not connected inherently; are separate and distinct ego functions.

264. PSap(a); PSap(p); cPSpr(s)

Friend, C. M., & Zubek, J. P. The effects of age on critical thinking ability. Journal of Gerontology, 1958, 13, 407-413.

Heterogeneous sample of M and F volunteers, 12 to 80 years, participated in a study of developmental changes which occur in critical thinking ability, as measured by the Watson-Glaser Test of Critical Thinking. In general, critical thinking ability

264. (cont'd)

appears to peak in mid-20s. However, drawing inferences, detecting assumptions, and making deductions peak in mid-30s. Individual differences in performances are apparent throughout the age range. Older Ss tend to choose absolutes of true and false rather than consider alternatives; older Ss, along with teen-aged Ss, tend to be less objective in critical thinking. No sex differences were apparent.

265. cPSpr(s)

Funk, C. D., & Carter, G. J., Jr. The relationship between dogmatic scores and performance ratings among adult educators. Adult Education, 1971, 21(2), 46-55.

Education extension agents participated in a study of the hypothesis that individuals high in dogmatism are less effective performers because they are less able to conceptualize problems and identify alternative solutions, are less able to separate information content from its source, and are less adaptable to change. Ss completed the Dogmatism Scale (Rokeach); a supervisor questionnaire was completed for each S. Data indicated that age and level of education affected what is an inverse relationship between dogmatism and performance: older the individual, the more dogmatic; better educated the individual, the less dogmatic.

266. PSap(a); PSap(t); mPS

Gall, J. P., et al. Analyzing problems: Training unit 2.
San Francisco, Calif.: Far West Laboratory for Educational
Research and Development, 1971. (ERIC Document Reproduction Service No. ED 105 621)

Six-step hierarchical problem solving computer model is characterized by identification, analysis, and remediation of problem signals, i. e., any message indicating existence of a problem communication in the form of a comment, conversation, report, news article.

267. PSap(t); cPSpr(s); cPSen(c); cPSen(s)

Garvey, C. Investigation of child-adult differences in problem solving communication. Washington, D. C.: National Center for Educational Research and Development, 1972. (ERIC Document Reproduction Service No. ED 065 875)

Four studies on the performance of 5th-grade student dyads and adult dyads on three problem solving tasks for the purpose of examining the structural properties of communications and factors influencing the accuracy of communications were reported. The following specific aspects of performance were studied: relative participation of dyad members in conversations; mechanisms of recognition of verbal interactions, e. g., interruption, repetition; and features of encoding style. In general, adult dyads have mutually accepted rules of conduct that underly participant interactions in problem solving communication;

267. (cont'd)

in child dyads, behavior reflects partial acquisition of adult rules. No consistent sex, race, or socioeconomic status differences in performance on problem solving or in encoding style were observed.

268. PSap(t); cPSpr(s); cPSen(c); cPSen(c)

Garvey, C., & Baldwin, T. Studies in convergent communication: III. Comparisons of child and adult performance. Baltimore, Md.: Johns Hopkins University, Center for the Study of Social Organization of Schools, 1971. (ERIC Document Reproduction Service No. ED 047 293)

Third in a series of reports analyzing convergent communication patterns among child and adult dyads. Convergent communication is communication in which two persons cooperatively exchange information in order to reach a stated goal and where, since neither person has sufficient information to solve the problem alone, cooperation and a convergence of information are needed to reach the goal. Adult dyads, compared to child dyads, were more consistently marked by organization of communication and included evidence of verbal cooperation and reclarification of encoded messages.

269. PSap(t); cPSpr(s); cPSen(c); cPSen(s)

Garvey, C., & Baldwin, T. Studies in convergent communication: I. Analysis of verbal interaction. Baltimore, Md.:

269. (cont'd)

Johns Hopkins University, Center for the Study of Social Organization of Schools, 1970. (ERIC Document Reproduction Service No. ED 045 647)

Analysis of dyadic communication of child and adult samples, that is, the speech of peers in problem solving tasks which elicit goal-oriented verbal interaction, for the purpose of developing a content analysis scheme for the detailed study of communication patterns: encoding, chaining, structural relationships, goal orientation, is reported.

270. PSap(t); cPSpr(s)

Gaudet, I. J. Problem solving and transfer in three age levels of adult humans (Doctoral dissertation, Auburn University, 1970). _Dissertation Abstracts International_, 1971, _31_(10), 6288B. (University Microfilm No. 71-9039)

Problem solving and transfer were investigated via single and double alternation learning tasks in 36 young, middle-aged, and old male and female adult volunteers. A significant decreasing linear trend appeared in the age-problem solving relationship, main differences being between young and old Ss. Compared to young Ss, old Ss showed increased interference from the first task in learning to the second task. Concluded that more difficulty occurs in the rate of successive solving of alternation learning problems with increasing age, and that increased interference is a factor.

271. mPS

Georgia University, Tutor Support Library.

a. Johnston, J. D., & Palmatier, R. A. The directed reading approach: A lesson organization procedure adapted for use with adults. Instructional concept guide no. 9. Athens, Ga.: Georgia University, Regional Adult Literacy Service Unit, 1976. (ERIC Document Reproduction Service No. ED 120 360)

b. Johnston, J. D., & Palmatier, R. A. Student-centered tutoring: Using initial lesson results to set future goals. Instructional concept guide no. 3. Athens, Ga.: Georgia University, Regional Adult Literacy Service Unit, 1975. (ERIC Document Reproduction Service No. ED 120 356)

c. Johnston, J. D., et al. The language experience approach: Application for tutoring adults in reading. Instructional concept guide no. 8. Athens, Ga.: Georgia University, Regional Adult Literacy Service Unit, 1975. (ERIC Document Reproduction Service No. ED 120 343)

d. Memory, D., & Lamarre, M. Health and medical care: A functional content unit. Athens, Ga.: Georgia University, 1975. (ERIC Document Reproduction Service No. ED 120 460)

e. Memory, D., & Palmatier, R. A. Consumer Credit as a topic for adult literacy training: A functional content unit. Athens, Ga.: Georgia University, Regional Adult Literacy

2.1. (cont'd)

Service Unit, 1975. (ERIC Document Reproduction Service No. ED 120 459)

f. Memory, D., et al. *Helping adult literacy students to get and keep a job: A functional content unit*. Athens, Ga: Georgia University, 1975. (ERIC Document Reproduction Service No. ED 120 461)

g. Palmatier, R. A. *Word concepts: An adult approach to decoding skills. Instructional concept guide no. 6*. Athens, Ga.: Georgia University, Regional Adult Literacy Service Unit, 1976. (ERIC Document Reproduction Service No. ED 120 358)

h. Palmatier, R. A., et al. *Teaching one-to-one: A diagnostic approach to beginning tutoring. Instructional concept guide no. 2*. Athens, Ga.: Georgia University, Regional Adult Literacy Service Unit, 1975. (ERIC Document Reproduction Service No. ED 120 355)

i. Strader, S., et al. *The teaching of sight words: Ways and means. Instructional concept guide no. 7*. Athens, Ga.: Georgia University, Regional Adult Literacy Service Unit, 1975. (ERIC Document Reproduction Service No. ED 120 359)

j. Weiner, R. *The newspaper: A source of high interest instructional material for adults. Instructional concept guide no. 10*. Athens, Ga.: Georgia University, Regional Adult Literacy Service Unit, 1975. (ERIC Document Repro-

271. (cont'd)

duction Service No. ED 120 361)

k. Weiner, R., & Carter, S. *Sample instructional units of life-coping skills: A functional content unit*. Athens, Ga.: Georgia University, 1975. (ERIC Document Reproduction Service No. ED 120 462)

Series of units and guides on various topics from the Tutor Support Library which forms the basis of a system for tutor training and support for adult literacy programs. The Library is made up of Instructional Concept Guides: training and reference aids for tutors, and Functional Content Units: aids to assist in combinations of reading skill instruction and support in particular areas of life coping skills.

272. mPS

Gibb, E. G. *Creative problem solving (Prelim. Ed.)*. Austin, Tex.: University of Texas, 1970. (ERIC Document Reproduction Service No. ED 037 367)

Three-module program for creative problem solving was prepared for math. teachers. Module 1 dealt with the application of deferred judgment and the elimination of prejudgment to problem situations. Module 2 utilized an Instructor's Guide and story exercises to find, redefine, broaden, and more effectively reword the problem in order to develop an appreciation for seeking problems in everyday situations, for more realistic problem definitions, and for recognition of the difference between de-

272. (cont'd)

cision finding statements and idea finding statements in students. The text and problem solving worksheets in Module 3 had teachers utilize problem definitions and deferred judgment skills, use creative problem solving procedures to solve real problems, and internalize problem solving procedures in their teaching approach.

273. cPSpr(a); cPSpr(s); cPSen(s)

Gilbreath, S. H. Group counseling with male underachieving college volunteers. *Personnel & Guidance Journal*, 1967, *45*(5), 469-476.

Study of 81 male volunteer college underachievers (assessed by relative congruence of achievement test performance and g.p.a.) to determine the differential effects of a direct leader structured group counseling method versus a nondirect group structured method on selected personality characteristics and on g.p.a. Results showed that regardless of method used, the availability of group counseling had a beneficial effect on g.p.a. The leader structured method positively affected both the personality characteristics, i. e., ego strength, and academic achievement, i. e., g.p.a.

274. mPS

Gillispie, P. H. *Learning through simulation games*. Paramus, N. J.: Paulist Press, 1973. (ERIC Document Reproduction

274. (cont'd)

Service No. ED 089 737)

Detailed descriptions of 24 simulation games which focus on one of six themes: freedom, life, peace, love, happiness, communication, are presented.

275. PSap(a); PSap(t)

Gillman, S. I. The influence of stimulus alteration upon concept shifts within and between dimensions in adult humans (Doctoral dissertation, New York University, 1965). Dissertation Abstracts International, 1966, 27(2), 1624B. (University Microfilm No. 66-5725)

Study of transfer performance in reversal shift and comparison of a variety of nonreversal and intradimensional shifts with respect to change or constancy of transfer values of relevant and irrelevant dimensions. Sample, 112 college students, was divided into seven groups: traditional reversal, nonreversal (4 groups), and intradimensional (2 groups). Ss learned initial discrimination followed by transfer discrimination. Results indicated that the groups did not differ significantly in the original discrimination. On the transfer task, the reversal group required significantly fewer trials to criterion than any of the nonreversal groups.

276. mPS

Glaser, R. (Ed.). Teaching machines and programmed learning.

276. (cont'd)

Washington, D. C.: National Educational Association, Department of Audiovisual Instruction, 1965. (ERIC Document Reproduction Service No. ED 028 638)

Review of past (1955-1965) and current objectives, programming variables and techniques, computer-based instructional systems, adaptive teaching systems, effectiveness of instructional programs, and programming for classroom instruction related to programmed learning and teaching machines. Section on technology and subject matter examines programming in selected subject areas, e. g., reading and related verbal learning, math. , ESL.

277. PSap(t); cPSpr(a); cPSpr(s)

Glass, J. C., Jr., & Hoffman, L. M. Learning disabilities in adults. Community College Review, 1976, 4(1), 27-35.

Examination of five factors which contribute to adult learning disabilities yields helpful suggestions for teachers of adults to be used in ameliorating these factors.

278. cPSpr(s)

Gomersall, E. R., & Myers, M. S. Breakthrough in on-the-job training. Harvard Business Review, 1966, 44(4), 62-72.

Report on a control group experimental study designed to assess the effectiveness of anxiety-reduction sessions on learning time and attitudes of new female employees. Differences be-

278. (cont'd)

tween experimental and control groups in learning time and attitude were apparent immediately and after one month: for Ss participating in the anxiety-reduction sessions, training time was halved, absenteeism and tardiness dropped, production efficiency rose.

279. PSap(t); cPSpr(s); cPSen(c); cPSen(s)

Goodsell, D. R. Adult leadership and conflict resolution. Adult Leadership, 1974, 22(7), 236-238.

Adult learner desires knowledge but will remain in the learning environment only as long as his self image is positive. Teacher, or supervisor, must handle instruction and cause learning to occur without damaging learner's self image: avoid "teaching down," regulate group so members do not damage one another's self concept. Challenges face the teacher in accomplishing this: adults have life experiences and will often have opinions (either expressed or not) about subject matter; adults are frequently more vocal in questioning, not only subject matter but plan and purpose of education.

280. PSap(t); cPSpr(a); cPSpr(s); cPSen(c)

Goodson, M. R., et al. Review and prospectus: First annual report of the research and development center for learning and re-education. Madison, Wis.: University of Wisconsin,

280. (cont'd)

1965. (ERIC Document Reproduction Service No. ED 011 943)

Review of articles describing the present status, findings, and future research plans for programs in concept learning of the adult education center after a year of operation. Covers topics dealing with school and school related subjects in the areas of the culturally disadvantaged, adult reeducation, social variables in learning, instructional television, and methodology. Research findings with the culturally disadvantaged indicate a need to emphasize learning of subskills for a specific task rather than general ability improvement. In the area of adult reeducation, diversity and flexibility is advised in the use of materials and methods for low and middle income rural women. Study of symbol development in reading by disadvantaged adults indicates that the processes of evaluating and remembering appear to be involved in concept learning and that performance is improved by verbal instruction.

281. PSap(t)

Goodwin, R. Q., & Wason, P. C. Degrees of insight. British Journal of Psychology, 1972, 63(2), 205-212.

Maladaptive strategy in reasoning is viewed by E as seeking verification evidence only, and not falsification evidence. Performance on a reasoning task by 32 university student volunteers was investigated for facilitation of solution by visual

281. (cont'd)

card cues. Cards aided memory and imagery if difficulty with abstract material was due to attending to the different components, but were of little help if difficulty was due to the failure of abstract material to induce ideas for solution. Ss' spontaneously produced explanations for selections, and the possibility of subsequent self correction of errors and spontaneous insight, were studied.

282. PSap(a); cPSpr(a); cPSpr(s)

Goor, A., & Sommerfeld, R. A comparison of problem-solving processes of creative students and noncreative students. Journal of Educational Psychology, 1975, 67(4), 495-505.

Study investigating the process aspect of creativity (divergent thinking) by analyzing verbalizations of 52 creative and non-creative college students, paid for their services, while engaged in three problem solving tasks spanning both the concrete and abstract levels of thought. Analysis of results shows that high creative Ss had different thought patterns compared to low creative Ss and that the nature of the problem solving task influences these patterns, i. e., the two patterns show a gradually increasing divergence along the time dimension for the concrete task. Low creative Ss show a more rapid decrease of productive work, as well as less verbalization. High creative Ss consistently generate more information and hypotheses together with more self reference and self criticism over all

282. (cont'd)

three tasks than do low creative Ss.

283. PSap(t); mPS

Gordon, J. E., & Erfurt, J. C. Placement and after: A manual for coaches and other employment workers. Ann Arbor, Mich.: Michigan University, 1971. (ERIC Document Reproduction Service No. ED 058 585)

Job placement manual for coaches in placing the disadvantaged cites various employment problem situations such as an unmet need for a job, refusal of a job referral, a resistant potential employer, being fired, quitting, or trouble with the law. Strategies such as one-to-one counseling, employer and/or company intervention, and an enrollee advocate are proposed to deal with these problems.

284. cPSpr(s); ePS

Gorman, B. S., & Breskin, S. Non-verbal rigidity, creativity, and problem solving. Perceptual and Motor Skills, 1969, 29(3), 715-718.

Investigation of the relationship between performance on the Breskin Rigidity Test (nonverbal) and performance on measures of creative thinking, i. e., semantic redefinition, associational fluency, inductive reasoning, and figural completion, yielded results that indicated that Ss described as more

284. (cont'd)

creative tended to have lower scores on the rigidity test.

285. cPSpr(m); cPSpr(a); cPSps(s)

Goulet, L. R., & Baltes, P. B. (Eds.). Life-Span Developmental Psychology: Research and Theory. New York: Academic, 1970.

Theory and research on developmental processes throughout the life-span are presented under the following major categories: conceptual states and history, theory contruction, general methodology, perception and cognition, learning and attention, language, and intellectual abilities. Particularly relevant to adult problem solving are chapters by J. H. Flavell on cognitive changes in childhood, J. Botwinick on learning in children and older adults, and J. L. Horn on organization of data on life-span development of human abilities.

286. PSap(t); mPS

Grabowski, S. M. ERIC adult learning laboratories. Adult Leadership, 1973, 21(10), 336.

The learning laboratory, a flexible, self-contained learning system incorporating individualized self-paced instruction with programmed materials in a multimedia approach was proposed for adult learners. An educational coordinator assists in program selection to meet the individual needs of each

286. (cont'd)

student. Programs are available all year, and can be entered at any time.

287. cPSpr(s)

Granick, S., & Friedman, A. S. Educational experience and the maintenance of intellectual functioning by the aged: An overview. In L. F. Jarvik, C. Eisdorfer, & J. E. Blum (Eds.). Intellectual Functioning in Adults. New York: Springer, 1973. Pp. 59-64.

Adults learn as well as youngsters when factors of speed and anxiety are reduced or eliminated. Research indicates that education acts as a stimulus to the individual's capabilities and the use of these capabilities is apt to maintain, and even increase, their functional effectiveness. However, relatively few educational opportunities are adapted to the needs and circumstances of adults, especially older adults.

288. PSap(k)

Grant, C. A. The new social studies and the inner-city student. Social Studies, 1974, 65(3), 118-120.

Advocates the use of social studies to arouse intellectual curiosity in K-12 students, especially innercity students, because of its multidisciplinary approach, as well as a social studies program which teaches the learner to question and be

288. (cont'd)

skeptical, to get to fundamental processes and conflicts, and to examine values. Students should be encouraged to observe, communicate, classify, infer, predict, formulate models, measure and interpret data, formulate operational definitions, formulate questions and hypotheses, and test hypotheses in order to cope with and improve society. (Ed.: For students younger than adults, but constructs may have applicability in adult education.)

289. cPSpr(a); cPSpr(s); cPSen(c)

Graves, A. J. Attainment of conservation of mass, weight, and volume in minimally educated adults. Developmental Psychology, 1972, 7(2), 223.

ANOVA study to determine if race, sex, and education (as measured by performance level on the Adult Basic Learning Exam) affect the degree of conservation of mass, weight, and volume of minimally educated adults. Adult Ss, grouped by one of three performance levels of ABLE, were asked to predict, judge, and explain response for problems for each type of quantity. For all Ss, 78% conserved mass, 67% weight, and 24% volume. A significant interaction was found between education (level I versus levels II & III) and conservation of mass. Data were not available to answer the significant question of whether conser-

289. (cont'd)

vation, especially of volume, is related to education or to practical experiences.

290. cPSpr(a); cPSpr(s); cPSen(c); cPSen(s)

Greaney, B. J. An investigation of the relationship between formal operational ability and home environment (Doctoral dissertation, Boston College, 1974). Dissertation Abstracts International, 1974, 35(2), 887A. (University Microfilm No. 74-19,218)

Junior high school students, in four social class groups, participated in a study of the interactions among social class; specific interactions in the home, i. e., press for language development, provision for general learning, and intellectual interests and activities; and the development of formal operational ability, as measured by the Butch and Slim game. No significant interactions were found between formal operations and the independent variables, as the dependent and independent variables were defined in this study. (Ed.: A study of junior high rather than adult behaviors; however, may have some relevance for study of adult problem solving.)

291. ePS

Green, D. R. Racial and ethnic bias in achievement tests and what to do about it. Monterey, Calif.: CTB/McGraw-Hill,

291. (cont'd)

1974. (ERIC Document Reproduction Service No. ED 084 285) Consideration of ways in which ethnic and racial bias can be removed from achievement tests. Focus placed on the use of criterion-referenced tests and on additional procedures in developing norm-referenced tests.

292. cPSpr(m); ePS

Green, J. V. The development of a model to assess the educational needs of adults (Doctoral dissertation, Kansas State University, 1975). Dissertation Abstracts International, 1976, 36(8), 4959-4960A. (University Microfilm No. 76-2931)

Description of the development and validation of an interview schedule that can be used to determine the educational needs of adults. In the development of the schedule the relationships among these five independent variables were studied: age, sex, race, employment status, and amount of formal education, relative to another independent variable, i. e., desire to take a course in any of four areas of adult education: hobby and self-improvement, academic education, vocational education, and ABE-general education diploma. Responses of the heterogeneous adult sample (N = 1,021) used in validation indicated that the less formal education an adult had the less likely he would be to take a class; 40% indicated an interest in vocational edu-

292. (cont'd)

cation; 30%, in academic education; and 35% interested because of hobby or self-improvement.

293. ePS

Greenfield, S. C. Notation systems for transcribing verbal and nonverbal behavior in adult education research: Linguistics (phonetics and phonemics), paralinguistics, proxemics, the micro analyses of the organized flow of behavior, haptics, dance notations, and kinesics (Doctoral dissertation, Arizona State University, 1975). _Dissertation Abstracts International_, 1975, _36_(4), 1981-1982A. (University Microfilm No. 75-22,544)

Location, examination, and description of notation systems that have been, or could be, used for transcribing adult communication behavior. Data collected through formal and informal means. Systems deal with the language portion of speech as well as non-language. Recommendations are made and steps outlined for designing and conducting a multidisciplinary experiment in adult education to explore learning/teaching behavior using these notation systems, as well as traditional methods of investigation. Research should seek verifiable correlates between specific population behaviors and other factors present in adult education settings.

294. mPS

Gregg, D. W. Brighter lamps for learning. Journal of the American Society of Chartered Life Underwriters, 1969, 23(2), 37-40.

Adult Learning and Research Center at Bryn Mawr has been established to study adult learning techniques and procedures and to develop practical learning tools and techniques.

295. mPS

Gregory, T. B. Teaching for problem-solving: A teaching laboratory manual (Prelim. Ed.). Austin, Tex.: Texas University, Research and Development Center for Teacher Education, 1970. (ERIC Document Reproduction Service No. ED 046 905)

Set of tasks to be used in teaching students an approach to problem solving: identifying and presenting the problem, formulating hypotheses, verifying hypotheses, and applying the generalization, as well as instructional objectives and methods and an evaluation guide are included in this manual. (Ed.: material not developed for adults but constructs could be applied to adult learning of problem solving.)

296. PSmo

Griffith, W. S., et al. Cooperative program improvement: An experiment in ABE in-service training. Chicago, Ill.: Chicago University, 1971. (ERIC Document Reproduction Service No. ED 054 416)

296. (cont'd)

Doolittle Experimental Program begins by concluding that the existing ABE system is not functioning well and can be changed. The program requires an initiating outside agent, a project director, outside agency involvement, funds, student participation, recruitment and orientation of personnel, and four planning and one evaluation meetings. Problems limiting effectiveness of the program are identified and placed in priority ordering during the first meeting. Future meetings have groups develop solutions, present group reports on agreed upon solutions, and arrive at a single group concensus on priority ordering of problems and solutions. Evaluation consists of a review of the progress report, reassessment of the problem and solution priority list, and an assessment of changes, both quantitative and qualitative.

297. PSmo; PSap(t)

Grimes, D. M. Adult education and the employability training philosophy. Sacramento, Calif.: California State Department of Education, Bureau of Adult Education, 1972. (ERIC Document Reproduction Service No. ED 062 621)

Proposal made that an adult education program be initiated in which the adult immediately enters vocational training; basic skills deficiencies are identified by the vocational teacher and then remedied in the context of the vocational training.

298. cPSpr(s); cPSen(c)

Grimmett, S. The influence of ethnicity and age on solving twenty questions. Tucson, Ariz.: Arizona University, Arizona Center for Early Childhood Education, 1968. (ERIC Document Reproduction Service No. ED 045 233)

Study of problem solving ability of low- and middle-income male Ss: Mexican-Americans, Indians, Blacks, and Anglos, in four groups: 3 low-income and 1 middle-income. Higher socioeconomic status Ss significantly better than lower socioeconomic status Ss in problem solving performance. No differences were found among ethnic groups in problem solving performance.

299. ePS; mPS

Grindstaff, C. Comprehension skills, Unit 3. Morehead ABE Teacher Training Institute. Morehead, Ky.: Morehead State University, 1971. (ERIC Document Reproduction Service No. ED 101 188)

Techniques for teaching ABE students reading vocabulary and comprehension in conjunction with other basic subject areas are considered. Principles of CLOZE procedure, SQ3R, and D-R-T-A outlined.

300. PSap(k)

Groen, G. J., & Parkman, J. M. A chronometric analysis of simple addition. Psychological Review, 1972, 79(4), 329-343.

300. (cont'd)

Children generally use one of five counting models in solving simple addition problems; adults rely on a high speed memory scan plus a high speed counting process.

301. PSap(a); cPSpr(a); cPSpr(s)

Grotelueschen, A. Structure and sequence in teaching number bases to adults. Adult Education, 1970, 20(4), 195-205.

ANOVA experiment studying the effects of differentially structured introductory materials on conceptually related learning tasks which were differentially sequenced, involved a sample of 96 volunteers, aged 23 to 53 years, grouped by sex and scholastic aptitude. Analysis of results showed differentially structured materials to have little effect on subsequent performance, except possibly for the Ss with higher scholastic aptitude. Completely sequenced learning task resulted in a more rapid acquisition of the material.

302. mPS

Gryba, E. S., & Kyba, R. A plan for a Life Skills course for northern adolescents. Prince Albert, Saskatchewan: Saskatchewan New Start, Inc., 1972. (ERIC Document Reproduction Service No. ED 072 182)

Extension of the Life Skills course for adults to a course on skills needed by adolescents and young adults to solve problems related to life tasks.

303. mPS

Guidelines for short-term continuing education programs preparing adult and family nurse practitioners. Kansas City, Mo.: American Nurses Assn., 1975. (NTIS No. HRP-0012544/3ST)

Guidelines for a continuing education program for the preparation of college and university health practitioners. Purpose of such a program is to provide nurses with additional knowledge, understanding, and skills to enable them to assume an expanded health care role: direct nursing care to college and university community, obtain health histories, provide health counseling, contribute to health education, provide for the continuity of care.

304. PSap(t); mPS

Gupta, V. K. Business games: A neglected pedagogical tool. Journal of Business Education, 1972, 47(7), 276-277.

Major value of games for adult students in business education is the development of problem solving and of decision making skills. Games are able to provide stimuli and practice leading to the development of these skills not always achieved under traditional teaching or under programmed instruction or educational television.

305. PSap(a); PSap(t); cPSpr(a); cPSpr(s)

Guttentag, M. Cognitive functioning in parallel and se-

305. (cont'd)

quential processing conditions. Journal of Genetic Psychology, 1973, 122(1), 127-133.

Experiment studying male and female decision time with visual parallel and sequential processing problems under control, distraction, and irrelevant cue conditions. Sample consisted of 240 paid volunteers, aged 20 to 35 years, randomly selected from a noncollege population. ANOVA results showed significant main effects for both sex and sequential processing conditions. Males were superior in all sequential and parallel processing control and distraction conditions. For both Ms and Fs, processing was found to be most efficient in controlled conditions without distraction or irrelevant cues and impaired when distractor was in the auditory mode. Females showed less decline than males when irrelevant cues were presented in the same sense modality (visual). Females appear to be better able to cope with many irrelevant cues present. Processing tasks can be structured so that sex differences are highlighted rather than obscured.

306. mPS

Gwin, A. A demonstration of the interrelating of library and basic education services for disadvantaged adults (Alabama model center). Morehead, Ky.: Morehead State University, 1973. (ERIC Document Reproduction Service No. ED 087 398)

Detailed description of a demonstration project in which 500

306. (cont'd)

ABE students were served by mobile library facilities. The library services were planned to interrelate with ABE courses.

307. cPSpr(m); cPSpr(a); cPSpr(s); cPSen

Gyamfi, K. The effects of selected characteristics of farm operators on their responsiveness to a farm management education programme (Doctoral dissertation, Kansas State University, 1974). Dissertation Abstracts International, 1974, 35(5), 2626-2627A. (University Microfilm No. 74-25,603)

The effects of age of farm operator, farm size, land holding tenure status, level of formal schooling, and length of exposure to a specially designed educational program, on farm success, as measured by gross farm income, were studied. Farm operators, aged 35 to 54 years, with five or more years in the educational program participated in the study. Gross farm income, i.e., farm success, was affected only by farm size. Farm operators of large farms regardless of age, length of education, tenure, or length of membership in the program, had larger incomes than operators of smaller farms.

308. ePS

Haley, J. V., & Rimoldi, H. J. A. Sequential evaluation of problem solving processes. Chicago, Ill.: Loyola University, Psychometric Laboratory, 1962. (ERIC Document Reproduction Service No. ED 003 006)

Exploratory study, using data generated from a previous study with high school and college subjects, to determine whether a question-study method was more useful for assessing problem solving behavior than analysis of solutions. Techniques, formulae, and results presented. However, validation of question-study as a method of assessing problem solving behavior requires additional experimental research.

309. mPS

Hall, C. W. Enlarging the concept of adult education. American Vocational Journal, 1974, 49(2), 25-26; 38.

Adult educational leaders from differing backgrounds presented varied frameworks in adult education. Proposals included educational approaches other than the traditional ones such as non-credit, self-improvement services, study programs, consultation programs, and technical assistance programs. Also suggested were a remedial program for dyslexic persons, a community-based economic program for the disadvantaged, an integrated task and social skills development program to meet rural health needs, and special technical skills programs, e. g., underwater welding.

377c. mPS

Hammer, J. L., & Iverson, M. J. Crop storage and handling. An instructional unit for adult vocational education in agriculture. Lexington, Ky.: Kentucky University, Division of Vocational Education, 1972. (ERIC Document Reproduction Service No. ED 112 248)

See entry #377: Kentucky University, Division of Vocational Education.

310. cPSpr(s); cPSen(c); cPSen(e); cPSen(s)

Hammonds, A. D. Socio-economic status and anomia (Doctoral dissertation, University of Tennessee, 1963). Dissertation Abstracts International, 1964, 24(11), 4833A. (University Microfilm No. 64-4880)

Exploration of the established relationship between (socio-economic status measured by a Guttman-type scale) and socio-psychological anomia, field interviews and an anomia scale were given to 1,418 male household heads, mostly white with low educational attainment, low income, and low occupational status. The status-anomia relationship was interpreted as the S's perception of economic deprivation. When deprivation was perceived, low and high status Ss scored high on anomia. There was a tendency for Ss who did not perceive deprivation to score low on anomia despite status. Black and older Ss scored high on anomia, with at least two sources of anomia: a discrepancy between goals and means, and a discrepancy from the additional limitations of social and cultural structures placed upon their

310. (cont'd)

efforts to achieve goals.

311. ePS

Hampton, L. A. Evaluating continuing education programs. Adult Leadership, 1973, 22(3), 105-107; 118-119.

Adult education program evaluation was proposed in order to determine the degree to which objectives were met, to identify reasons for success or failure, and to improve future programs and organizational operations. Evaluations should include reaction of participants, learning acquired, participant behavioral change, and program results, with participants, instructors, planning committee, and program coordinator and staff acting as evaluators. Suggested that there be a pre-conference evaluation, an ongoing evaluation, a terminal evaluation, and a follow-up evaluation, and that the responsibility for evaluating such programs go to someone with a positive attitude.

312. cPSpr(a); cPSpr(s); cPSen(c); cPSen(s)

Hampton, P. J. Improving the learning abilities of academically disadvantaged adults. Adult Leadership, 1973, 22(6), 191-192; 220.

Examination of the basic learning abilities the academically disadvantaged adult must have if he is to "prosper." These abilities involve (1) gross motor skills, (2) sensory-motor skills,

312. (cont'd)

(3) perceptual-motor skills, (4) communication (verbal and numerical) skills, (5) study skills, (6) conceptual skills (including reasoning), (7) social adjustment skills, and (8) personal adjustment skills. Verbal communication and conceptual skills were further detailed in terms of learning behaviors.

313. PSap(t); ePS

Handscombe, J., et al. Individualizing the ESL program (or teaching in the ways in which students learn). North York, Ontario: North York Board of Education, 1974. (ERIC Document Reproduction Service No. ED 105 762)

Individualized instruction techniques, based on student's experiences and needs, are presented as a means of making ESL programs effective. Specific suggestions are given for adult learners.

314. cPSen(s); mPS

Harman, D. Illiteracy: An overview. Harvard Educational Review, 1970, 40(2), 226-243.

Review of current institutional constructs of illiteracy and functional illiteracy for the purpose of generally relating them to literacy goals and of making specific suggestions re-

314. (cont'd)

garding ABE literacy programs. Literacy is divided into hierarchical component stages: (1) conceptualization of literacy as a tool, an internalization of a literacy consciousness; (2) literacy attainment of basic reading and writing skills; (3) practical application of skills in activities meaningful to the learner. ABE literacy programs should be situation specific, with goals, content, and evaluation components derived independently of usual grade school equivalencies. Advocates use of permanent learning centers with specifically designed curricula to aid in this effort.

315. mPS

Harmon, P. A classification of performance objective behaviors in job training programs. Educational Technology, 1969, 9(1), 5-12.

Performance objective is a written statement which includes a performance objective title with an action verb, the conditions under which the desired behavior will occur, the behavior which the student will perform to demonstrate acquisition of the desired skill, and the criteria by which behavior is judged as acceptable or not. Fourteen objectives are grouped under three general headings: verbal performance objectives, physical performance objectives, and attitudinal performance objectives.

316. PSap(t); cPSpr; cPSen; mPS

Hartwig, J. E. A competency-based approach to adult counseling and guidance. Counselor Education and Supervision, 1975, 15(1), 12-20.

The Adult Career Education Counseling Project is based on total life planning: social development, consumerism, avocational interests, health, citizenship, education, work, marriage/family, community and religion, the main purpose being to help adults identify personally significant behavioral changes, develop insights and the ability to make realistic decisions. The learner is required to make overt responses as abstract concepts are learned gradually. Motivation is increased through realistic relevant experiences which bring real life and the abstractness of curricula (i. e., learning experiences) closer together, measuring skills and concepts already mastered, and giving students the opportunity to use imagination, problem solving, and creative skills, as well as encouraging the student's responsibility for his own learning. Various guidance and counseling abilities must be demonstrated by the counselor in order to help clients resolve career, educational, and personal and social problems.

317. PSap(a); PSap(p); cPSpr(a); cPSpr(s)

Harwood, E., & Naylor, G. F. Rates of information-transfer in elderly subjects. Australian Journal of Psychology, 1969, 21(2), 127-136.

317. (cont'd)

Experiment designed to assess the maximum rate of information acceptance (MIA) for three perceptual tasks among members of an older adult sample (60 to 90 years) compared to members of a young adult sample. MIA lower for older Ss; declines consistently from the 70's. Decline greater when perceptual material unfamiliar and when information to be accepted comes from more than one source simultaneously. However, while performances of older Ss were consistently lower, range of performance within the sample group was such that, except in the most difficult tasks, the older Ss achieved well ahead of the average younger S. Effectiveness of cognitive functioning may be limited by rate of information acceptance. (MIA calculated in a manner correlated with WAIS, expecially performance subtests.)

318. PSap(t); cPSpr(m); mPS

Hathaway, W. R. "On beyond zebra": The use of programmed instruction in adult education. In A. D. Calvin (Ed.). Programmed Instruction: Bold New Venture. Bloomington, Ind.: Indiana University Press, 1969. Pp. 201-212.

Programmed instruction can be a technique for motivating and encouraging adult students. Six potential characteristics of programmed instruction can contribute to its successful use with adult learners: (1) individualized instruction, (2) step-

318. (cont'd)

by-step progression, (3) coherent explanations, (4) immediate feedback, (5) self pacing, and (6) interesting content and method.

319. PSap(a); PSap(p); cPSpr(a); cPSpr(s)

Hayslip, B. Age differences in relationships between crystallized and fluid intelligences and problem solving (Doctoral dissertation, University of Akron, 1975). Dissertation Abstracts International, 1976, 36(11), 5761B. (University Microfilm No. 76-10,078)

Investigation of differences in ability learning relationships across the life span with three groups of subjects 17-26, 39-51, 59-76. The ability factor is represented by the crystallized-fluid intelligence distinction (Horn & Cattel, 1966-67); the learning factor, by the Type O - Type C dichotomy of problem-solving (Davis, 1966). Results on age-related differences in correlations with crystallized versus fluid ability and problem solving performance generally support the relationships between ability and performance in the oldest group. Results for the young and middle aged groups did not support these relationships.

320. PSap(a); PSap(p); cPSpr(s)

Heglin, H. J. Problem solving set in different age groups. Journal of Gerontology, 1956, 11, 310-317.

320. (cont'd)

Relationship between chronologic age and susceptibility to set, ability to overcome set, and relative effectiveness in training Ss to avoid set, was examined in 300 male and female middle-class Ss in three age groups: 14-19, 20-49, and 50-85 years. On the first test the older group showed generally more set on all measures, the middle group showed less set, and the younger group showed the least. The middle group benefited most from training while the older group benefited least; the middle group was superior to the older group on every measure and superior to the younger group on both susceptibility scores. Age differences were significant most frequently after training but the same trends were generally evident for the first test.

321. ePS

Heim, A. W., Watts, K. P., & Simmonds, V. AH 2 and AH 3: Parallel tests of reasoning. British Journal of Psychology, 1974, 65(4), 493-503.

Description of AH 2 and AH 3, multiple choice group tests of reasoning for literate Ss, aged 10-years to adulthood. Reliability and validity data collected from a total sample of 330 Ss, residents of urban and rural areas in England and Scotland. Tests are identical in format and are divided into verbal, numerical, and perceptual sections along a steep gradient of

321. (cont'd)

difficulty. A three-part profile is obtained as well as a total score. Items in the perceptual part are especially designed to meet the needs of younger children and less able older Ss. Flexibility in psychological set is assessed by varying the concept of "series" in all three parts and by leaving to the S the decision as to whether he is searching for same or opposite (verbal part). Test content includes response consistency checks.

322. mPS

Hendrickson, A. E. A manual on planning educational programs for older adults. Tallahassee, Fla.: Florida State University, 1974. (ERIC Document Reproduction Service No. ED 103 614)

Description of manual, divided into three sections, consisting of addresses and resource documents by various authorities in the field, offered as a guide in initiating educational programs for the aging in Florida, but applicable in other regions as well. First section deals with physiological, psychological, and sociological aspects of aging and second career planning; the second part, with education, counseling, learning process, and teaching problems; the third part, with program planning outlined in a 7-step procedure to be followed based on needs and interests of clientele.

323. PSap(a); PSap(p); cPSpr(a); cPSpr(s)

Hertzog, C. K., Williams, M., & Walsh, D. A. The effect of practice on age differences in central perceptual processing. Journal of Gerontology, 1976, 31(4), 428-433.

Twelve old (66.5 years) and 12 young (18.8 years) adult volunteer Ss participated in an experimental study of the effect of practice on age differences in speed of central processing (i. e., on visual perception). Results obtained from monitoring of performances showed age differences to remain stable over five days of practice indicating that differences between age groups are probably not reversible by practice.

324. mPS

Hickok, D., & Shelton, E. (Comps.). The ABC's in APL: An annotated bibliography of materials related to the adult performance level general knowledge areas. Austin, Tex.: University of Texas, Adult Performance Level Project, 1976.

Bibliography of materials, all of which have been examined in APL office, to assist ABE teachers in making selections related to APL performance requirements, structured by general knowledge area and reading level. Materials are cross indexed by knowledge areas.

325. PSap(a); PSap(t); cPSpr(s); cPSen(c); cPSen(e); cPSen(s)

Hiemstra, R. P. Older adult learning: Instrumental and ex-

325. (cont'd)

pressive categories. Educational Gerontology, 1976, 1(3), 227-236.

Interview study designed for the purpose of investigating older adults' preferences for instrumental versus expressive learning activities. Heterogeneous sample of 256 adults, average age 68 years, participated in the study. Hypothesized preferences for instrumental learning were supported; greater preferences for instrumental learning were expressed by Ss who did not have college degrees; younger members of the sample, white collar workers, nonwhite Ss, and married Ss were more involved with instrumental learning. Instrumental learning activities appear to be preferable for use with adult learners, especially middle-aged and older adults.

326. cPSpr(s); cPSen(c); cPSen(e); cPSen(s)

Hiemstra, R. P. The older adult's learning projects. Educational Gerontology, 1976, 1(4), 331-341.

Interviews with 214 adults, aged 55 years or older, yielded the information that the "average" adult engaged in 3.3 learning projects a year on which he spent an average of 325 hours. Majority of the learning projects were self directed. Upper-middle class, college graduates, and white collar workers took part in significantly more learning projects than do other adults.

327. ePS

Hiemstra, R. P. Program planning and evaluation: A bibliography. Lincoln, Neb.: Nebraska University, Department of Adult and Continuing Education, 1971. (ERIC Document Reproduction Service No. ED 056 285)

Bibliographic material categorized in one of four components as each item relates to adult learning: client analysis, establishing objectives, program planning, and evaluation.

328. mPS

High school equivalency: Mathematics, part II. Curriculum resource handbook. Albany, N. Y.: New York State Education Department, Bureau of Special Continuing Education, 1970. (ERIC Document Reproduction Service No. ED 040 325)

Mathematics curriculum resource handbook prepared for instructors of GED classes.

329. cPSpr(a); cPSpr(s); cPSen(c); cPSen(e); cPSen(s)

Hill, T. H. Differences of selected variables among students taking the General Educational Development Test (Doctoral dissertation, University of Missouri, 1975). Dissertation Abstracts International, 1976, 36(10), 6425A. (University Microfilm No. 76-7504)

Relationships between success/failure on the GED and socioeconomic and self concept status of a sample of ABE students

329. (cont'd)

were studied. Sex and GED success/failure were independent; successful males and females had higher self-criticism scores: interpreted as less self-defensiveness. Success on the GED did not appear to be a determining factor in a S's overall level of self esteem.

330. cPSpr(s); cPSen(s)

Hoenninger, R. W. Career preparation in adult basic education (Doctoral dissertation, University of Missouri, 1974). Dissertation Abstracts International, 1975, 36(3), 1243A. (University Microfilm No. 75-20,121)

Experimental study of the effect of career preparation process on (1) employability perceptions, i. e., job personalizations, movement toward job personalizations, self-recognition of work potential, and aspirations as measured on the Employability Perceptions Inventory; and (2) dogmatism, as measured by Rokeach's Dogmatism Scale (Form E) in a sample of adults, each assigned to one of four groups: 3, experimental; 1, control, attending a job skills center, is reported. Career preparation process included instruction and video-taped problem solving situations in five areas: job selection, human relations, job applications, absenteeism, and job interviewing. Analysis of gain scores, obtained from pre- and post-administration of both instruments yielded no significant gains attributable to the career prepara-

330. (cont'd)

tion process. However, positive gains were reported by adults completing the special career program.

331. PSap(a); PSap(p); cPSpr(a); cPSpr(s)

Holt, G. L. & Matson, J. L. The effects of age on perceptual changes using two new perspectives of the Necker cube. Bulletin of the Psychonomic Society, 1976, 8(1), 4-6.

Experimental study of the interaction of age and instructional sets, varying in degrees of structure, on perceptual changes on the Necker Cube. Volunteer Ss, in 11 age groups from 5 to 95 years, participated in the study. The very young and the very old (65 years +) Ss were less able to reverse visual perspectives than the middle ranges of the age groups. Cause may rest in factors affecting organization and intellectual processing of visual-perceptual stimuli.

332. mPS

Home economics education: Tips on purchasing clothes. Albany, N. Y.: New York State University, 1973. (ERIC Document Reproduction Service No. ED 107 818)

Learning package on purchasing clothes developed for use with disadvantaged adult learners from innercity or rural areas in consumer-homemaking classes.

333. cPSpr(a); cPSpr(s)

Honzik, M. P., & MacFarlane, J. W. Personality development and intellectual functioning from 21 months to 40 years. In L. F. Jarvik, C. Eisdorfer, & J. E. Blum (Eds.) Intellectual Functioning in Adults. New York: Springer, 1973. Pp. 45-58.

Review of longitudinal data on the Berkeley Growth Study sample leads authors to conclude that personality characteristics are factors which often determine whether intellectual pursuits are undertaken by an individual or not.

334. mPS

Hope, C., & Rothery, A. Mathematical modelling in the classroom. Mathematics Teaching, 1975, 71, 36-39.

Suggestions are made for activities involving the construction of mathematical models to solve "real life" problems. (Ed.: material is directed to secondary education; constructs have potential for use with adult learners.)

335. cPSpr(a); cPSpr(s); cPSen(c); cPSen(s); ePS

Horn, J. L. Organization of data on life-span development of human abilities. In L. R. Goulet, & P. B. Baltes (Eds.). Life-Span Developmental Psychology. New York: Academic Press, 1970. Pp. 423-466.

335. (cont'd)

Interrelationships found among abilities is seen to reflect the interdependence of both acculturational and neurophysiological influences. Subpatterns within the general pattern of interdependence derive from selected exposures, specific motivations, etc. The two influences produce two broad patterns of abilities which are identified as indicating intelligence: Gf or fluid intelligence--neurophysiological in origin which decreases during adulthood; and Gc or crystallized intelligence--experiential in orientation which increases during adulthood, but only for those adults who remain "in the stream of acculturation." Some of the abilities which do not decline with age in adulthood include Verbal Comprehension, Experiential Evaluation, and General Reasoning; abilities which decline include Figural Relations and Classifications, Induction, and Associative Nonsense Memory.

336. cPSpr(a); cPSpr(s); cPSen(c); cPSen(s); ePS

Horn, J. L. Organization of abilities and the development of intelligence. Psychological Review, 1968, 75(3), 242-259.

Performances, considered indicators of intelligence, are interrelated in ways which point to two broad factors: one indicates extent of acculturation as it determines human abilities, i. e., crystallized intelligence; the other, patterns of neurophysiological and incidental learning influences, i. e.,

336. (cont'd)

fluid intelligence. Data in support of these constructs are presented.

337. PSap(t); mPS

Horn, R. E. More about information mapping. Training, 1975, 12(2), 36-38.

Information mapping is a method of organizing, writing, sequencing, and formatting learning and reference materials. Suggestions for the application of the technique in the training of adults includes a chart to help trainers decide whether information mapping should be used in the preparation of training materials.

338. PSap(p); cPSpr(a); cPSpr(s)

Hornblum, J. N., & Overton, W. F. Area and volume conservation among the elderly. Developmental Psychology, 1976, 12(1), 68-74.

Investigation of the hypothesis that older adults maintain competence to solve Piagetian conservation problems and will conserve when such strategies are activated. Sixty middle-class F Ss, aged 60 to 76 years, with from 6 to 18 years of education (average, 10 years) participated in two studies designed to investigate area and volume conservation: (1) area and volume conservation abilities assessed, (2) Ss who

338. (cont'd)

failed Study 1, trained and assessed by one of two methods, i. e., feedback and no feedback. While 75% failed the area conservation task, the ease with which training was completed by these Ss suggested already present cognitive structures. Elderly appear to maintain relevant strategies in competence which can be activated into performance by simple verbal feedback; performance remains stable over time (delayed posttest). Important to differentiate competence (able to) from performance.

339. PSap(t); mPS

Hotchkiss, L. E. How some adults learn HOW to teach. Adult Leadership, 1969, 18(2), 47-48; 54; 66.

Description of a self-instructional program for adults which uses programmed instruction and is based on the principle that adults are involved in and make use of their life experiences in learning. Programmed instruction has five basic aspects which makes it ideal for the adult student: (1) set own pace, (2) obtain feedback from errors privately, (3) enroll when motivated, (4) get credit immediately, when completing a course, (5) learn how to learn so education becomes a truly continuing process which can be applied to everyday life and work.

340. mPS

Houle, C. O. The public library's role in non-traditional

340. (cont'd)

study. School of Library Service, Columbia University, New York, 1974. (ERIC Document Reproduction Service No. Ed 098 993)

Exploration of services which the library can provide for the adult learner and ways in which this can be done in collaboration with adult education programs.

341. cPSpr(m); cPSpr(a); cPSpr(s); cPSen(s)

Houle, C. O. Who stays-and why? Adult Education, 1964, 14(4), 225-233.

Questionnaire study of 1,200 adults enrolled in six adult educational institutions for the purpose of determining causes of adult dropout yielded the following four categories: (1) avoid "fun and games" approach to promote adult education; (2) continuing support to student to indicate that he can learn, or relearn, how to learn; (3) give help to student on how to study; also support-an individual's study problems are not unique to him and the result of some personal deficiency; (4) help learner develop skills and understandings needed to be successful; careful intake screening for placement. Presentation includes also a summary of major categories stated by various investigators to be the cause of adult student dropout.

342. PSap(a); PSap(p); PSap(t); cPSer; cPSen

Howell, R. E. *Improving rural leadership potential in public affairs*. Montreal, Canada: Rural Sociological Society, 1974. (ERIC Document Reproduction Service No. ED 093 557)

Description of an adult education program in public affairs leadership development for rural adults, aged 20 to 40 years, identified as potential leaders. Four types of programs were developed: (1) statewide workshop in which major interstate and international urban centers are visited in order to develop a working knowledge of government and of developing nations; (2) regional workshops involving analysis of local issues designed for those who cannot travel; (3) public affairs forum involving dialogue between experts in the field and a select population from a particular community; and (4) correspondence courses in public decision making for those who cannot participate in a structured program.

343. cPSpr(m); cPSpr(a); cPSpr(s); cPSen

Huberman, A. M. *Some models of adult learning and adult change*. Strasburg, France: Council of Europe, Committee for Out-of-School Education and Cultural Development, 1974. (ERIC Document Reproduction Service No. ED 105 177)

Comprehensive document of research and progress pertaining to adult learning and change from a perspective viewing adulthood as a distinct developmental phase with unique mental, physical, and emotional characteristics. Research findings support the

343. (cont'd)

identification of motivation as a key factor separating dropouts from those continuing in adult programs: participants tend to be younger, more highly educated, and holders of professional jobs. Development of an adult psychology is a necessary prerequisite for continuing education. McClelland's achievement training and Friere's discussion groups for literacy training are recommended learning program bases.

344. cPSpr(a); cPSpr(s)

Hultsch, D. F., Nesselroade, J. R., & Plemons, J. K. Learning-ability relations in adulthood. Human Development, 1976, 19(4), 234-247.

Investigation of the changing relationships between ability and performance measures at various stages of the learning process during adulthood, and an examination of adult age differences in patterns of ability-performance relations within the learning-to-learn paradigm. F Ss in five age groups, 18 to 85 years, relatively superior in intelligence and educational level, completed experimental tasks which sampled the following abilities: associational and ideational fluency, memory span, rote memory, meaningful memory, perceptual speed, verbal comprehension, and general reasoning. Factor analysis of data yielded information supporting differential patterns of learning/ability relations as a function of (1) age and (2) stage of the learning process.

344. (cont'd)

For older Ss, memory abilities significantly predicted performances at all stages of learning; for younger Ss, associational fluency. Results are limited to one learning component; age differences are specific to certain processes, rather than to age.

345. PSap(a); PSap(t); cPSpr(a); cPSpr(s)

Hultsch, D. F., Hickey, T., & Rakowski, W. Adult learning in a meaningful context. Paper presented at the Scientific Meeting of the Gerontological Society, Louisville, Ky., 1975.

Interrelationships among age, intellectual abilities, personality traits, personality states, and attitudes in their effects on learning were studied in a heterogeneous sample of adults. Quasi-experimental pretest posttest design was used in which half the Ss received training, half did not. Data analysis supports the conclusion that abilities, especially learning abilities, were more predictive of performance on the learning task than age.

346. PSap(a); PSap(p); cPSpr(a); cPSpr(s)

Hultsch, D. F. Learning to learn in adulthood. Journal of Gerontology, 1974, 29(3), 302-308.

Experimental study to determine the degree and nature of learning to learn effects in adulthood used two multitrial

346. (cont'd)

free recall tasks with a sample of 114 F Ss in 5 age groups, 18 to 86 years. Overall, all Ss showed improvement over successive trials. However, learning to learn effects varied as a function of age: as chronological age increased there was a shift from a pattern of positive transfer at all stages of learning to a pattern of negative transfer in early stages followed by positive transfer. Cognitive organization improved over successive tasks, but an age effect was still apparent.

347. PSap(a); PSap(t); cPSpr(a); cPSpr(s)

Hunter, I. M. L. The influence of mental set on problem solving. British Journal of Psychology, 1956, 47(1), 63-64.

Modified version of W. S. Foster's (1923) materials and design was used to confirm Foster's findings that a definite set will result in less problem solving time than will an indefinite set. Seventy-two men and women in a first-year class in experimental psychology were given an anagram task. There were fewer failures, and problem solving was easier and took less time when a more specific set was used.

348. PSap(t); cPSpr(m); cPSpr(a); cPSpr(s); cPSen(c); cPSen(s)

Hyman, R. Coding systems and the comprehension of instructional

348. (cont'd)

materials. Advanced Research Projects Agency, Arlington, Virginia, October, 1974. AD-A012 976/7ST

Discussion of ways in which learning objectives and learning materials can be adapted to individual needs of adult learners. Description of a proposed research program directed toward providing information about this issue.

349. PSap(a); cPSpr(a); cPSpr(s); ePS

Insel, S. A., Reese, C. S., & Alexander, B. B. Self-presentations in relation to internal and external referents. Journal of Consulting & Clinical Psychology, 1968, 32(4), 389-395.

Investigation of self-presentations in relation to internal and external referents in which M and F Ss completed (1) Myers-Briggs Type Indicator, a measure of the dimensions of extroversion-introversion, sensing-intuition, thinking-feeling, and judgment-perception as individual differences; and (2) Fundamental Interpersonal Relations Orientation-Behavior Questionnaire (FIRO-B), used to determine S's wants and self-expectations in interpersonal relationships. Findings indicated that (1) Ss presenting themselves via internal referents avoided external referents almost entirely; (2) Ss using external referents avoided internal referents; (3) Ss preferring thinking category tended to be more logical, impersonal structured; (4) Ss preferring feeling category center attention less on concrete situations and more on possibilities not yet clearly defined; and (5) males with external referents are different from other three groups with respect to the thinking-feeling scale: more thinking than feeling, prefer to retain distance from others.

350. mPS

In-service training for teachers of adults. Washington, D. C.:

350. (cont'd)

National Association for Public Continuing and Adult Education, 1961.

Outlines for in-service training for teachers of adults, based on the concepts that education must be directed toward helping individuals make wise decisions and toward effective societal participation, are presented in two parts: planning and content. Three topics are described in this booklet: (1) Orientation to Adult Education, (2) Obstacles to Adult Learning, and (3) Selecting Effective Teaching Methods.

351. mPS

Instructional patterns for consumer and homemaking education. Sacramento, Calif.: California State Department of Education, 1976. (ERIC Document Reproduction Service No. ED 119 011)

Instructional guide which presents consumer concepts and generalizations related to five areas of a home economics program: clothing, food and nutrition, housing and home furnishings, human development and family relations, and management of financial resources. Each of the five areas includes performance objectives for adult level, instructional strategies, suggested individual and group learning experiences, and a supplementary resources list.

352. cPSen(s); mPS

Interim progress report on the project, "From Research to Practice in ABE: Phase I." Tallahassee, Fla.: Florida State University, 1970. (ERIC Document Reproduction Service No. ED 061 484)

Report of a demonstration project in Adult Basic Education which includes discussions of the social organization of ABE, a linear model, community liaison, and detailed program information.

353. cPSen(s); mPS

Interim report. Commission on vocational education in correctional institutions. Trenton, New Jersey: Commission on Vocational Education in Correctional Institutions, 1971. (ERIC Document Reproduction Service No. ED 062 600)

Vocational education and job placement after release from prison are the best ways to rehabilitate offenders. Detailed description of vocational education program and services, plus administrative support needed to implement such a program for offenders prior to their release, are presented.

354. cPSpr(m); cPSpr(a); cPSpr(s); cPSen(c); cPSen(e); cPSen(s)

Irene, G. M. The perceived effect of an adult high school diploma on the graduate: Self concepts, attitudes toward education, involvement in community activities, and

354. (cont'd)

occupation (Doctoral dissertation, University of Michigan, 1974). Dissertation Abstracts International, 1974, 35(5), 2627A. (University Microfilm No. 74-224)

Questionnaire study of the effects of receipt of a high school diploma as reported by a heterogeneous sample of adult graduates yielded the following results: (1) adults who had been high school dropouts perceived themselves as having developed more positive self concepts as a result of their completion of adult high school; (2) Ss' perceived attitudes toward education were significantly more positive toward education after, when compared to before, graduation; (3) 100% of the Ss felt that possession of a high school diploma increased the possibility of their participation in community activities; and (4) Ss perceived school as contributing to job success.

355. PSap(t); mPS

Jacobs, I. The class as a group. *Adult Education (London)*, 1972, *45*(4), 238-240.

Tutors in adult education were advised to organize communication lines and seating arrangements in order to facilitate student interactions in the class. Students' questions, encouraged through a class session, promote understanding and avoid confusion. Circular seating arrangements, for groups of 8 to 15 students, foster class interaction.

356. cPSpr(m); cPSpr(a); cPSpr(s); cPSen

Jarvik, L. F. Discussion: Patterns of intellectual functioning in the later years. In L. F. Jarvik, C. Eisdorfer, & J. E. Blum (Eds.). *Intellectual functioning in adults*. New York: Springer, 1973. Pp. 65-67.

Review of major learning research on intellectual functioning with advancing years calls attention to differences in composition of samples with regard to variables of age, intelligence, amount of education, socioeconomic background, but with at least one common pattern: remarkable stability of verbal scores, given physical health, accompanied by decline in performance on speeded tasks. However, education appears to be a significant factor in intellectual functioning during later life: education appears to (1) stimulate intellectual interests, and (2) help set up habit patterns that perpetuate such interests

356. (cont'd)

through the life span. Further, data indicate that personality factors are the keys which often determine whether intellectual pursuits (e. g., educational activities) are undertaken or not.

357. cPSpr; cPSen

Jarvik, L. F., Eisdorfer, C., & Blum, J. E. (Eds.). Intellectual functioning in adults. New York: Springer, 1973.

Reviews of current research and reports of current experimental studies concerned with the interactions of age and selected physiological, biochemical, and psychological factors on behaviors related to intellectual functioning in heterogeneous samples of adults, provide data and theoretical bases from which to develop educational programs for adults.

358. mPS

Jenkins, D. Demonstration plots aid in teaching adults. Agricultural Education Magazine, 1970, 43(2), 50.

Application of a problem solving method in preparing demonstration plots was proposed for instructors for use with students and farmers. Steps, to be completed under instructor supervision, included defining a definite problem; setting goals and objectives; gathering materials, information, available research, and references; applying experimentation methods;

358. (cont'd)

evaluating and making an analysis; and setting up additional study.

359. mPS

Johns, J. L. (Ed.). Literacy for diverse learners: Promoting reading growth at all levels. Newark, Del.: International Reading Association, 1974. (ERIC Document Reproduction Service No. ED 097 630)

Collection of papers on literacy includes a section on adult populations: programs and materials designed to promote literacy and a review of the research on literacy for a wide range of adult learners. Bibliography is appended.

360. PSap(a); cPSpr(s); ePS

Johnson, B. L., & Kilmann, P. R. Locus of control and perceived confidence in problem solving abilities. Journal of Clinical Psychology, 1975, 31(1), 54-55.

Eighty male and female undergraduate Ss, selected on the basis of extreme scores on the Rotter Internal-External Locus of Control Scale, were administered a problem solving abilities scale exploring confidence, frequency of changing mind, comfort in making suggestions about a difficult problem within a group, frequency of seeking advice and comfort in making difficult decisions, as part of a psychological battery. It was predicted

360. (cont'd)

that internal Ss would rate themselves as more confident in problem solving abilities than external Ss.

361. PSap(a); PSap(t)

Johnson, D. M. Improvement of problem solving processes. Final report. East Lansing, Mich.: Michigan State University, 1968. (ERIC Document Reproduction Service No. ED 027 582)

Volunteer college student Ss in two solution production groups: single or multiple, wrote one or many solutions to a variety of problems presented through verbal, numerical, or pictorial materials. After participating in the problem solving process training, performances of Ss in the single solution group appeared to have been influenced to a greater degree by that training; quantity of production of solutions appeared to be associated with low solution quality. However, information about criteria for good solutions led to improved performances for all Ss. Improvement in problem solving performance appeared to be related to improvement in (1) production processes, and (2) judgment processes. Transfer of training was demonstrated between problem solving performances.

362. PSap(t); mPS

Johnson, R. G. Simulation techniques in career development.

362. (cont'd)

American Vocational Journal, 1970, 45(6), 30-32.

The Stanford Experiments, a series of problem solving occupational simulations to motivate and broaden vocational interests in high school students of varying ability and SES, were developed and tested. Simulation had a long term effect, particularly with students from schools in lower SES communities. Simulation aroused more interest, and in some cases more subsequent exploration into additional sources of information, than did the traditional monographs. Criteria for simulation development were suggested: choose occupations with a good employment outlook, of intrinsic interest to the majority; problems worded simply enough so that reading ability not be a significant factor; problem solving tasks be endorsed as adequate samples by occupational representatives; and 75% of the target population be able to complete the problem solving materials within 50 minutes. (Ed.: suggestions for high school students; have applicability for development of materials for adults.)

363. PSap(t); cPSpr(m); cPSpr(a); cPSpr(s)

Johnston, J. A. An exploration of the effects of three educational approaches on mental health of essentially normal adults (Doctoral dissertation, University of Tennessee, 1973). Dissertation Abstracts International, 1974, 34(8), 4874A. (University Microfilm No. 74-3833)

363. (cont'd)

ANOVA experiment studied the effect of three teacher-learning methods, (1) Traditional Discussion (T.D.), (2) Structured Intra-Personal Perceptual Activity (S.I.-I.P.A.), and (3) Problem Solving Activity (P.S.), on the mental health (as measured by McClain's Self-Description Blank, Barron's Ego-Strength Scale of M.M.P.I., and Bill's Index of Adjustment and Values) of 60 adult graduate students with a mean age of 27.9 years, enrolled in a mental health course. In general, the T.D. group revealed more negative feelings, while the S.I.-I.P.A. group showed a reduction in negative feelings. The P. S. group had more significant changes on all variables than either of the other two groups, changes more an increase of positive feelings than a reduction of negative ones.

271a. mPS

Johnston, J. D., & Palmatier, R. A. The directed reading approach: A lesson organization procedure adapted for use with adults. Instructional concept guide no. 9. Athens, Ga.: Georgia University, Regional Adult Literacy Service Unit, 1976. (ERIC Document Reproduction Service No. ED 120 360)

See entry #271: Georgia University, Tutor Support Library.

271b. mPS

Johnston, J. D., & Palmatier, R. A. Student-centered tutoring:

271b. (cont'd)

Using initial lesson results to set future goals. Instructional concept guide no. 3. Athens, Ga.: Georgia University, Regional Adult Literacy Service Unit. 1975. (ERIC Document Reproduction Service No. ED 120 356)

See entry #271: Georgia University, Tutor Support Library.

271c. mPS

Johnston, J. D., et al. The language experience approach: Application for tutoring adults in reading. Instructional concept guide no. 8. Athens, Ga.: Georgia University, Regional Adult Literacy Service Unit, 1975. (ERIC Document Reproduction Service No. ED 120 343)

See entry #271: Georgia University, Tutor Support Library.

364. cPSpr(m); cPSpr(s); cPSen

Johnston, J. G. A needs analysis of aspirations for postsecondary education held by high school students and adults in the state of Vermont (Doctoral dissertation, Harvard University, 1975). Dissertation Abstracts International, 1975, 36(6), 3448A. (University Microfilm No. 75-26,914)

Analysis of latent demand for postsecondary education which exists in Vermont based upon assumption that this demand is not reflected in attendance figures because aspirations for education are not met by present systems. Results of a question-

364. (cont'd)

naire on educational aspirations of high school students and adults show that aspirations of these two groups are not independent of family, sex, income, self-worth, and urban/rural residence; aspiration level of adults is high but a number of obstacles, primarily costs, cuts participation rates; adults who have completed some postsecondary education are more likely to complete more than adults who have none. For high school students, academic self worth was found to have a strong effect on education (participation, attitude, and performance); this perception, which is interrelated with educational aspiration, is probably fixed before high school entry.

365. PSap(t); cPSpr(m); cPSpr(s); cPSen(s)

Johnston, W. Self-evaluation in a simulated team. Psychonomic Science, 1966, 6(6), 261-262.

Study of hypothesis that when individual output in a cooperative team cannot be separated clearly from team output, each member may accept credit for good team performance, but attribute blame for poor team performance to his partners. Sample consisted of 66 M undergraduate students asked to perform on an E-devised compensatory tracking task. Ss received feedback purported to represent individual or team tracking performance relative to average ability under lenient, moderate, and stringent criteria. Results showed that under individual instruction, Ss' estimate

365. (cont'd)

of ability agreed with feedback; under team instruction, Ss accepted credit for good scores under the lenient criterion, but blamed "partner" for poor scores under the stringent criterion. Self-evaluations appeared to be governed rigidly by team feedback and defined a potentially important aspect of interpersonal activity.

366. cPSpr; cPSen

Johnestone, J. W. C., & Rivera, R. J. Volunteers for Learning. Chicago: Aldine, 1965.

More than 1 out of 5 adults, 21 years or over or married, head of household, or in military service, had been directly involved in a form of learning between June 1961 and June 1962; majority involved were middle or upper-middle socioeconomic status rank. Survey data on educational activity obtained from random sample of 23,950 adults indicated that, at the lower socioeconomic levels, education is used to learn skills necessary for coping with everyday life. Low socioeconomic adults value education less and assess its worth in terms of tangible advantages to be gained from having it; do not perceive education in terms of personal growth or self-realization; education is not seen as pleasurable. Shift, as socioeconomic status shifts up, away from learning for purposes of basic life adjustment to less pressing concerns, e. g., enrichment of spare time. Low socioeconomic status adults have to cope with severe financial

366. (cont'd)

problems in many cases to obtain needed education.

367. cPSpr(a)

Jones, H. Intelligence and problem solving. In J. E. Birren (Ed.) Handbook Of Aging And The Individual. Chicago, Ill.: University of Chicago Press, 1959

Review of research studies on mental abilities and the aging process in which problem solving is considered in terms of the abilities traditionally measured in standarized tests.

368. cPSpr(s); cPSen

Jones, J. A. A study to test the effects of leader color and group composition as components of the lecture-group discussion method on raising the level of self-acceptance of negative self-concept Black adults (Doctoral dissertation, Boston University, 1971). Dissertation Abstracts International, 1971, 32, 1830A. (University Microfilm No. 71-26, 707)

Investigation of effects of leader color and self-concept group composition (mixed or low) on raising the level of self acceptance of negative self-concept Black adults attending a job opportunities center when both conditions were treated as components of human relations lecture/discussion groups. Ss in groups received positive input about the Black experience

368. (cont'd)

from a variety of instructional formats. Analysis of pretest/posttest results indicates that group composition, leader color, and their interaction, when used with the particular mode of instruction, have no significant effects on raising the level of self acceptance in the sample used.

369. mPS

Jones, M. Space awareness, an adult education curriculum resource guide (Bulletin No. 71-F-5). Tallahassee, Fla.: Florida State Department of Education, Division of Vocational, Technical and Adult Education, 1972. (ERIC Document Reproduction Service No. ED 102 352)

Instructional unit guide designed for adult education, including ABE, on breadth and scope of space exploration, including space benefits. Each unit consists of: introduction and rationale; preassessment; unit objectives; unit content; vocabularly, suggestions for instructor, resources; and post-assessment.

370. mPS

Jones, R. A demonstration of the interrelating of library and basic education services for disadvantaged adults (Kentucky Model Center). Morehead, Ky.: Morehead State University, 1973. (ERIC Document Reproduction Service No. ED 087 399)

370. (cont'd)

Description of a demonstration project designed to coordinate library and ABE services for rural, undereducated, disadvantaged adults includes detailed statement of objectives and list of project materials.

371. PSap(t); cPSpr(s)

Kahana, B. Training the aged for "competent coping." A psychotherapeutic strategy. Rochester, Mich.: Oakland University. (ERIC Document Reproduction Service No. ED 123 516)

Addressing the problems of older adults particularly within the context of institutional living, attention is called to a need for an awareness of the wide varities of coping strategies which can facilitate an individual's own coping behavior. Individual coping behaviors can be learned through a group approach where individuals share strategies.

372. PSap(a); cPSpr(m); cPSpr(a); cPSpr(s); cPSen

Kates, S. L., & Barry, W. T. Failure avoidance and concept attainment. Journal of Personality and Social Psychology, 1970, 15(1), 21-27.

Integration of theoretical formulations and empirical findings concerned problem solving, self-esteem, verbal feedback, and reaction to failure in a study of the performances of 88 male and female college students of average intelligence, classified as high or low in failure avoidance, on conjunctive or disjunctive concept attainment tasks using verbal or nonverbal feedback. High failure Ss were more successful in the nonverbal conditions than low failure Ss, but were less successful in the verbal conditions; high failure Ss were cautious in verbal-

372. (cont'd)

izing in order to avoid invalidation of solution and recognition of inadequacy. Differences were problem specific, i. e., found for the more difficult disjunctive problems, but not for the conjunctive problems. Successful problem solving appeared to be based on an interaction between personality factors, kind of task, and environmental conditions in which solution was undertaken.

373. PSap(a); PSap(t); cPSpr(a); cPSpr(s)

Kazanas, H. C., & Chawhan, A. R. Effects of two treatments on cognitive achievement of students varying in problem-solving ability. Journal of Educational Research, 1975, 68(7), 269-273.

Effects of two treatments, T. P. and T. C., the former consisting of prerequisite principles of a final task in physics, the latter utilizing examples, analogies, cues, mediators, etc., along with the prerequisite principles to facilitate conceptualization in cognitive achievement, were studied in a sample of 80 high school students, between 15 and 18 years, with high and low problem solving ability (as measured by the Seeing Problems Test, the Consequences Test and the Utility Test). The high problem solving ability group performed significantly better than the low problem solving ability group. The high problem solving ability group in both treatments, and the low problem

373. (cont'd)

solving ability group in treatment T. C. scored significantly higher on the final achievement test than the low problem solving ability group in treatment T. P., suggesting a need for more examples, cues, etc., for higher cognitive achievement in Ss' with low problem solving abilities. No significant difference was found among Ss with high and low problem solving ability in treatment T. C., and Ss with high problem solving ability in treatment T. P. (Ed.: study used high school sample; appears to have relevance for study with adult sample.)

374. PSap(t)

Keating, G. A. Comparison of four methods of teaching word recognition to bicultural, bilingual adults (Doctoral dissertation, University of Northern Colorado, 1972). Dissertation Abstracts International, 1973, 33(7), 3242A. (University Microfilm No. 73-283)

ANOVA experiment compared the following four methods of teaching word recognition to bicultural, bilingual adult inmates with limited reading skills: stressing visual aspects, stressing auditory aspects, stressing kinesthetic aspects, and combining these aspects. There were no significant differences in the mean score results of the four methods for both delayed recall or immediate recall. Kinesthetic treatment produced the highest variance in both testing situations, however no significant

374. (cont'd)

differences resulted between treatment means. Correlations between intelligence and reading level with immediate and delayed recall performance indicated that 5% or less of the total variance was held in common by any two variables.

375. PSap(t)

Kelley, F. V. Effects of group counseling and group coaching on academic achievement and attitude of adult, part-time, evening students (Doctoral dissertation, University of Akron, 1972). *Dissertation Abstracts International*, 1972, *33*, 1441A. (University Microfilm No. 72-24,733)

ANOVA study designed to explore the effects and relationships between group counseling and group coaching, based on Rogerian constructs, as (1) combined and (2) single group techniques for providing academic assistance, i. e., on study habits and attitudes, achievement, and English proficiency, to 109 adult evening school undergraduates. Group counseling as a single approach and group counseling/group coaching as a combined approach were effective in providing academic assistance. Group coaching as a single approach was the least effective technique.

376. mPS

Kennedy, K., & Roeder, S. *A guide to using language experience with adults*. Cambridge, Mass.: Comminity Learning Center, 1973. (ERIC Document Reproduction Service No. ED 103 600)

376. (cont'd)

Case study presentations designed to illustrate the various functions which language experience serves in ABE: emphasize communication, provide atmosphere of sharing and personal growth, permit students to confront their own learning blocks rather than ignore them. Specific methodology for the integration of language experience in the adult reading program, including use of student created materials, are presented in case study format.

160. mPS

Kentucky Appalachian Adult Education Center. Coping skills materials: A list of sources (Rev. Ed.). Morehead, Ky.: Morehead State University, 1974. (ERIC Document Reproduction Service No. ED 098 976)

Bibliography of free or inexpensive and easy to read materials, which include materials useful for adult learning of problem solving skills, is organized by subject area: aging, children, community, education, family, free time, health, home, jobs, legal rights, money management, moving, religion, transportation, and understanding self and others. Information on how to obtain material is included.

377. mPS

Kentucky University, Division of Vocational Education

a. Ashlock, I. H., & Iverson, M. J. Greenhouse management.

(cont'd)

An instructional unit for teachers of adult vocational education in agriculture. Lexington, Ky.: Kentucky University, Division of Vocational Education, 1972. (ERIC Document Reproduction Service No. ED 112 245)

b. Chumbler, F., Jr., & Iverson, M. J. Farm finance. A key to the farm business. An instructional unit for teachers of adult vocational education in agriculture. Lexington, Ky.: Kentucky University, Division of Vocational Education, 1972. (ERIC Document Reproduction Service No. ED 112 247)

c. Hammer, J. L., & Iverson, M. J. Crop storage and handling. An instructional unit for adult vocational education in agriculture. Lexington, Ky.: Kentucky University, Division of Vocational Education, 1972. (ERIC Document Reproduction Service No. ED 112 248)

d. O'Bryan, R. C., & Iverson, M. J. Tree-fruit production. An instructional unit for teachers of adult vocational education in agriculture. Lexington, Ky.: Kentucky University, Division of Vocational Education, 1975. (ERIC Document Reproduction Service No. ED 112 255)

e. Vincent, G., & Iverson, M. J. Profitable hog production. An instructional unit for teachers of adult vocational education in agriculture. Lexington, Ky.: Kentucky University, Division of Vocational Education, 1973.

377. (cont'd)

(ERIC Document Reproduction Service No. ED 112 256)

f. Wise, J., & Iverson, M. J. Land use. An instructional unit for teachers of adult vocational education in agriculture. Lexington, Ky.: Kentucky University, Division of Vocational Education, 1973. (ERIC Document Reproduction Service No. ED 112 246)

Series of instructional units, which emphasize a problem solving and discussion approach, have been designed for teaching topics in vocational education in agriculture to adults from diverse social, cultural, and economic backgrounds as well as different levels of experience.

378. cPSpr(a); cPSpr(s); cPSen(s)

Kernan, J. B., & Mojena, R. Information utilization and personality. Journal of Communication, 1973, 23(3), 315-327.

Gordon Personal Profile, Gordon Personal Inventory, and an E-devised task were used to explore the amount of information acquired prior to decision making, the proportion of available information used, and the existence of search styles in 32 Ss. Results indicated that as more information is made available more is used, but at a declining rate. "Efficacious" Ss were reasonably efficient, had average point scores and ordinary personality profiles, and used 23% of the available information. "Ritualistic" Ss had low point scores and efficiency measures,

378. (cont'd)

were the lowest of any group on ascendancy and personal relations and the highest of any on responsibility, and used much information relative to the other groups. "Venturesome" Ss had point scores higher than the other groups as well as very high efficiency measures, had low scores on cautiousness, comparatively low scores on responsibility, high scores on ascendancy and responsibility, and used 15% of the available information.

379. PSap(a); PSap(p); cPSpr(a); cPSpr(s)

Kesler, M. S., Denney, N. W., & Whitely, S. E. Factors influencing problem-solving in middle-aged and elderly adults. _Human Development_, 1976, _19_(5), 310-320.

ANOVA and regression analysis study of age and sex differences in problem solving abilities of two groups of adults (70.7 years and 37.8 years), from middle and lower-middle class backgrounds, with reference to education, occupation, and nonverbal intelligence, and their relationships to cognitive abilities, based upon data obtained from completion of written problems, verbal search tasks, and nonverbal search tasks in a "20-question" format. Few age and sex differences were found in problem solving ability; differences that were found could be attributed to education and nonverbal intelligence (as measured by WAIS block design and picture completion).

380. mPS

Kevorkian, G. The computer. Journal of Business Education, 1975, 50(6), 241-242.

Production control problems, at two levels of variable relationship complexity, were used to demonstrate the effectiveness of the computer for problem solving in management. Student users can gain exposure to, and knowledge of, a management science technique not generally available as well as gain familiarity with the computer as a tool for use in management decision making.

381. PSap(t); cPSpr; cPSen

Khatena, J. Creative imagination imagery: Where is it going? San Francisco, Calif.: Paper presented at the annual meeting of the American Educational Research Association, 1976. (ERIC Document Reproduction Service No. ED 123 648)

Review of current research and theory on creative imagination imagery leads to the recommendation, among others, for the integration of constructs basic to creativity (divergent thinking) in the curriculum and methodology relative to instructional materials in different subject areas, and in creative ways of learning, as well as to the emphasis on creativity in current educational movements, e. g., career education, involving realistic problem solving and future planning, and decision making.

382. cPSpr; cPSen

Kidd, J. R. How adults learn. New York: Association Press, 1959.

Taking the point of view that adults of all ages can learn effectively, the author reviews and discusses principles of learning and motivation with specific application to adults.

383. mPS

Kidder, S. J. Simulation games: Practical references, potential use, selected bibliography. Baltimore, Md.: Johns Hopkins University, 1971. (ERIC Document Reproduction Service No. ED 054 486)

Simulation games have advantages for learning and instruction: gaming is structured and controlled as well as free and innovative, allows the researcher to gain information about contingent interactions, and is perceived as realistic by the participants. Learning games were seen as similar to games teachers have used for years involving simple motivation and competitive structures. Social simulation games can be effective in attitude changes. Bibliography on selected topics in gaming appended.

384. PSmo; PSap(t); cPSpr(s)

Kindred, L. L. (Ed.). Tools for change: A basic course in problem-solving (2nd. Ed., Prelim. Ver.). Berkeley, Calif.: Interaction Associations, Inc., 1971. (ERIC Document Repro-

384. (cont'd)

duction Service No. ED 081 226)

Course, adaptable to elementary, secondary, and graduate school levels, utilizes heuristic strategies for problem solving, a common language to improve communication between problem solvers, games in teaching and learning about heuristics, and the use of heuristics to synthesize curriculum. Problem solving is defined as situation changing or conflict resolving actions which include perceiving, analyzing, remembering, planning, alternative generating, evaluating and synthesizing. Recommended that classes be balanced between males and females since each tends to have basic attitude, action, and planning biases that usefully interact, and that at least one teacher participate as a class member.

385. PSap(t); mPS

King, B. K. A competency-based educational counseling workshop for adult educators: A prototypic study (Doctoral dissertation, Indiana University, 1975). Dissertation Abstracts International, 1976, 36(9), 5739A. (University Microfilm No. 76-6414)

Educational workshop in counseling for adult educators was developed to establish minimal competency in providing structure for the counseling session; formulating concerns of the client; determining specific problem areas and formulating solution

385. (cont'd)

methods; devising and applying strategies for intervention; evaluating the effectiveness of the counseling session; and ending the counseling. Feedback from adult educators and counselors indicated that the workshop helped them view counseling as a learning experience. Further, counseling workshops and programs are needed in adult education; adult educators should develop minimal counseling competence.

386. PSap(a); cPSpr(s)

King, W. L. Learning and utilization of conjunctive and disjunctive classification rules: A developmental study. *Journal of Experimental Child Psychology*, 1966, *4*(3), 217-231.

Study compared relative difficulties of conjunctive and disjunctive rule learning for samples of children (6 to 12 years) and adults (attending college) under instructions denoting the relevant attributes in advance. Learning considered complete when Ss were able to identify rules, after which problems were randomly determined and counterbalanced so that F Ss received one order and M Ss another. ANOVA results indicated that performance improved with age up to the 12-year level; disjunctive rules were more difficult than conjunctive rules at every age; all age groups showed transfer from earlier to later problems. Rule difficulty seemed to depend upon ease of encoding important

386. (cont'd)

attribute contingencies for each rule; at all ages, rule learning can be described as mediated hypothesis testing.

387. PSap(t); cPSpr(m); cPSpr(a); cPSpr(s)

Kitchin, W. W. Relationships of autonomy and succorance to adult students' references, satisfactions, and performance in University evening college classes (Doctoral dissertation, University of North Carolina, 1970). Dissertation Abstracts International, 1971, 31(8), 3858A. (University Microfilm No. 71-3571)

Relationships between autonomy and succorance needs (as measured by the Gough Adjective Check List), and learning orientations, teaching method and style preference, satisfaction with method and style, and academic performance were investigated in 200 adult students enrolled in evening college. The majority of Ss indicated a desire for knowledge for its own sake, and a preference for the lecture-discussion teaching method, and permissive, warm teachers who encourage class participation. Autonomy and succorance were not significantly related to academic performance, nor did they differ significantly between students grouped according to learning orientation, teaching method preference, or teaching style preference. Satisfaction with teaching methods and styles, related at a high level of significance to achievement, suggested the primacy of affective

387. (cont'd)

factors in learning. The relationship between sex and succorance indicated women's generally stronger succorance needs on the part of adult educators.

388. cPSpr; cPSen; mPS

Klausner, S. Z., Bernard, J., Cole, S., Davis, J. A., & Levitan, S. A. _The work incentive program: Making adults economically independent. Vols. 1 & 2_. Philadelphia, Pa.: Pennsylvania University, 1972. (NTIS Nos. PB-220 204/2 & PB-220 205)

Evaluation of the role of the Work Incentive Program in the resocialization of husbandless mothers and the factors involved in their decisions to become economically independent through work. Three followup interviews, at 6-month intervals, were held with program participants. The likelihood that any participant would enter the work force appeared to be associated with other factors than specifically economic considerations.

389. PSap(a); PSap(p); PSap(t); cPSpr; cPSen

Klement, J. J., Lumsden, D. B., & Shearon, R. W. Learning of redundant materials presented through one versus two sensory modalities. _Programmed Learning and Educational Technology_, 1973, _10_(2), 65-68.

Study examined the relative effectiveness of instruction pre-

389. (cont'd)

sented visually as opposed to instruction presented audio-visually. Sample consisted of 36 adults (31.5 years) enrolled in ABE who had less than 8-years of education. Results indicated that, although the difference was not significant, Ss instructed through a single modality tended to learn more than Ss instructed through two modalities. Failure of the audio-visual instruction to provide significant gains gave support to the criticism that the expense of such material is not worthwhile given the instructional benefits. Further, undereducated adults may not be capable of multimodal processing.

390. PSap(a); PSap(t); cPSpr(a); cPSpr(s)

Klement, J. J. The effects of three reinforcement schedules and two media in presenting computer assisted instruction to under-educated adults (Doctoral dissertation, North Carolina State University, 1971). Dissertation Abstracts International, 1971, 32, 1830-1831A. (University Microfilm No. 71-24,337)

Effects of three levels of reinforcement: correlated, constant, and knowledge of results, on responses of 48 undereducated adults to a 5-lesson math. program presented under two computer-assisted instruction modes: single channel(visual display, only) and multichannel (audio and visual) were studied. Age, scholastic aptitude, and math. ability were used as covariates. ANCOVA

390. (cont'd)

was interpreted to indicate no significant differences in responses attributable to either presentation mode or reinforcement level. Correlated reinforcement and knowledge of results were more effective feedback than constant reinforcement. Single channel instruction combined with correlated reinforcement or knowledge of results was the most effective treatment.

391. PSap(t); cPSen

Klimoski, R. J., & Karol, B. L. The impact of trust on creative problem solving groups. Journal of Applied Psychology, 1976, 61(5), 630-633.

Investigation of the dynamics of interpersonal trust in group creative (divergent) problem solving involved 116 F undergraduates each assigned to one of 29 4-person Ex (high or low trust) groups and one C group. The high trust groups and the C group outperformed the low trust groups in performances on E-devised creative problem solving tasks.

392. cPSen; ePS

Knight, P. V. Toward designing and evaluating an adult education resource community leadership project in a selected ghetto area (Doctoral dissertation, Teachers' College, Columbia University, 1976). Dissertation Abstracts Inter-

392. (cont'd)

national, 1976, 36(12), 7837A. (University Microfilm No. 76-13,480)

Development and implementation of procedures and techniques for evaluating an ongoing adult education leadership program and presentation of evaluation guidelines for similar programs were based on data obtained from four E-devised questionnaires: (1) student evaluation of program, (2) staff evaluation and role analysis, (3) community involvement and expected tasks, and (4) agency evaluation of students. Analysis of responses indicated: (1) positive attitude toward the program and toward the "on-the-job" performance of program students; and (2) majority of the program students learned (i. e., earned passing grades), and were reported to be applying program-related knowledge in community and job activities, showing responsibility and leadership potential. Design criteria for similar programs should include (1) content related to the needs of the population to be served, and (2) learning activities designed to encourage participation in community life.

393. PSap(t); ePS; mPS

Knowles, M. S. Self-directed learning: A guide for learners and teachers. New York, N. Y.: Association Press, 1975. (ERIC Document Reproduction Service No. ED 114 653)

Guide for implementation of adult learners' self-directed learn-

393. (cont'd)

ing activities in which the role of the teacher is defined as that of a facilitator. Characteristics of adult learners are presented and discussed. Learning resources, practice exercises, and self-assessment instruments are included.

394. PSap(t); cPSpr(m); cPSpr(a); cPSpr(s); cPSen

Knowles, M. S. Issues in adult learning psychology. Adult Leadership, 1974, 22(9), 300-303; 315-316.

Education is a lifelong process. Learning is a wholistic development of the individual's capabilities for perceiving, knowing, thinking, feeling, valuing, and acting to cope more confidently with life. Present knowledge about adult development limited. The fundamental processes of learning are no different in adults than children. However, adults learn differently than children. The process of andragogy, as opposed to pedagogy, is presented as a theoretical framework from which programs, techniques, and materials for adult learning can be developed. The assumptions and processes of andragogy and pedagogy are compared on dimensions of learner self concept, experience, readiness, time perspective, and orientation to learning.

395. PSap(t); cPSpr(m); cPSpr(a); cPSpr(s); cPSen

Knowles, M. S. The adult learner: A neglected species. Madison,

395. (cont'd)

Wis.: American Society for Training and Development, 1973. (ERIC Document Reproduction Service No. ED 084 368)

Description of the andragogical model for human resource development (HRD), a guide for developing and implementing educational programs for adults, based on four assumptions which differ from those of pedagogy; (1) changes in self-concept, (2) role of experience, (3) readiness to learn, and (4) orientation to learning.

396. PSap(t); cPSpr; cPSen

Knowles, M. S. Innovations in teaching styles and approaches based upon adult learning. Journal of Education for Social Work, 1972, 8(2), 32-39.

Andragogical design for adult learning is presented as a 7-step process: (1) setting an informal climate conducive to trust, mutual respect, and physical comfort; (2) planning of curriculum by students, faculty, and community; (3) diagnosing needs, including assessment, on the basis of a competency model; (4) formulating program objectives by teachers and students; (5) planning sequential design of learning activities using a variety of instructional models; (6) conducting learning experiences, the teacher functioning as a facilitator; and (7) evaluating learning, qualitatively as opposed to quantitatively, using simulation of real-life role situations.

397. PSmo; cPSpr; cPSen; ePS

Knox, A. B. Adult development and learning. San Francisco, Calif.: Jossey-Bass, 1977.

Handbook based upon current tested knowledge about adult development and learning, provides a comprehensive perspective on adulthood for individuals working with adults, including adult educators. Major topics covered are: development during adulthood, including interaction of individual and environment; family role; education, work and community roles; physical condition; personality; learning; adaptation; and adult women's roles.

398. cPSpr(a); ePS

Knox, A. B., Grotelueschen, A., & Sjogren, D. D. Adult intelligence and learning ability. Adult Education, 1968, 18(3), 188-196.

Study of the relationship between learning ability and WAIS scores in a heterogeneous sample of 207 adults (19 to 67 years, 8th grade to PhD educational level, WAIS I. Q. range from 75 to 149) found adult intelligence (i. e., WAIS subscores) to be highly correlated with certain learning abilities.

399. cPSpr(m); cPSen

Knox, A. B., & Sjogren, D. D. Achievement and withdrawal in university adult education classes. Adult Education, 1965, 15(2), 74-88.

Survey study on success on dropouts in adult education programs

399. (cont'd)

found multiple reasons for withdrawal and suggests a variety of solutions, such as selection and emphasis on study skills in relation to learning ability, counseling and alternate learning methods in relation to job and family changes, and better teaching and administrative arrangements.

400. PSap(t); cPSpr; cPSen; ePS

Knox, A. B., & Sjogren, D. Research on adult learning. Adult Education, 1965, 15(3), 133-137.

Two research projects on adult learning suggest that in general the average older adult who attends an adult education program is at least as intellectually able and performs as well as the average younger student. Adults learn more effectively at their own pace. Brief diagnostic instruments can be used effectively in counseling (both before and after program enrollment) to individualize the learning experiences.

401. cPSpr; cPSen

Knox, A. B., & Videbeck, R. Adult education and the adult life cycle. Adult Education, 1963, 13, 102-121.

Structured interview study of a representative statewide sample of 1,500 adults, between 21 and 69 years, to determine characteristics, grouped in five status configurations (i. e., age, sex, marital status, employment status, children under 16 years and size of community in which respondent lives) related to partici-

401. (cont'd)

pation in adult education programs. Multivariate ANOVA analysis of responses indicated that (1) for the general population, adult participation is associated with age and socioeconomic status but not with commumity size or sex of respondant; (2) for women, working versus not working and having young children versus not, influences participation in adult education. Further, an age trend was identified: participation peaks and declines in young adulthood. Participation increased with increase in socioeconomic status.

402. PSmo; PSap(a); PSap(t); cPSpr; cPSen; ePS

Kochen, M., & Badre, A. N. Recognizing and formulating problems: Learning to comprehend and organizing knowledge into structures. Ann Arbor, Mich.: Michigan University, 1973. (ERIC Document Reproduction Service No. ED 085 648)

Exploration of the processes involved in the recognition, selection, and formulation of problems generated from the "real world" used samples of children (5th grade level) and college students. The processes for acquiring and using this ability were systematized and generalized to a theory of cognitive learning with emphasis on the formation and use of hypotheses in problem solving. Further study was based on new experimental techniques developed for measuring performance and quality of questions related to the formation of hypotheses fundamental to

402. (cont'd)

solution of problems requiring representational shifts.

403. mPS

Koeninger, J. G. Human relations games. Columbus, Ohio: Ohio State University, 1975. (ERIC Document Reproduction Service No. ED 112 233)

Classroom games designed to provide total student involvement in the process of human relations skills are discussed. (Ed.: games for use with secondary school students; constructs applicable to adult education.)

404. mPS

Korkmas, A., & Waite, M. (Comps.) Adult literacy: A bibliography of materials suitable for public library collections. Dallas, Tex.: Dallas Public Library, 1976. (ERIC Document Reproduction Service No. ED 129 288)

Annotated listings of materials suitable for use by a teacher in a classroom, by adult students in independent study, or by tutors in one-to-one learning situations, plus professional reading materials for adult educators, are included in this bibliography.

405. PSap(a); PSap(t)

Kornreich, L. B. Discovery versus programmed instruction in teaching a strategy for solving concept-identification

405. (cont'd)

problems. Journal of Educational Psychology, 1969, 60(5), 384-388.

Experiment designed to determine the manner in which three group methods relate to Ss' acquisition of focusing strategy for solving concept identification problems. Ninety-nine college student volunteers participated. Guided discovery method was more effective than either the discovery or programmed instruction approach. The effectiveness of the guided discovery method appeared to rest on its ability to prompt the learner to reread instructions during training.

406. PSap(t); cPSpr(m); cPSpr(a); cPSpr(s); cPSen

Krebs, A. H. (Ed.). The individual and his education (Second Yearbook of the American Vocational Association). Washington, D. C.: American Vocational Association, 1972. (ERIC Document Reproduction Service No. ED 123 448)

Material presented includes (1) attitudes and reasons prompting an adult to enter a vocational education program; (2) methods of instruction related to individualization of curriculum in vocational education; (3) work study programs; and (4) attitudes and abilities expected by prospective employers of employees.

407. PSmo; cPSpr; cPSen

Kreitlow, B. W. Basic explorations in adult re-education. Madison, Wis.: Wisconsin University, Research and Develop-

407. (cont'd)

ment Center for Cognitive Learning, 1970. (ERIC Document Reproduction Service No. ED 042 991)

Explorations in adult reeducation are presented for the purpose of identifying and selecting areas for detailed investigation. Research objectives include: (1) description of characteristics of adult learning in first stages of concept attainment; (2) comparison of symbol manipulation performances of literate and illiterate adults at the same socioeconomic status level; (3) description of language use patterns of low socioeconomic status rural women; (4) identification of preinstructional variables influencing adults' reorganization behavior; (5) development of viable learning models for adults; (6) operation of perceptual, cognitive, and motivational modes in adults and their interaction with learning processes; (7) improvement of efficiency of learning in concept attainment and problem solving for socially excluded adults; and (8) identification of differences in classroom learning behavior of adults and youth. Objectives are discussed in detail.

408. PSap(t); cPSpr; cPSen

Labouvie-Vief, G. Toward optimizing cognitive competence in later life. Educational Gerontology, 1976, 1(1), 75-92.

Extensive review of the research literature shows that the intellectual performance of the older adult responds favorably to a variety of motivational, training, and environmental conditions. Intellectual development through the life span can be characterized by plasticity rather than decline.

409. mPS

Laktasic, S. G. Simulation: What is it? No affiliation given. (ERIC Document Reproduction Service No. ED 126 057)

Defines simulation and describes its characteristics; provides information about its use for a variety of purposes and settings. Simulated problem solving is an effective mode of learning; it is realistic and allows the student to test and apply his own knowledge in a situation that is realistic but controlled.

410. PSap(t)

Lanyon, R. I., & Schwartz, M. M. Psychological learning theory: Application to adult education. Adult Education, 1966, 17(1), 12-18.

Brief discussion of some of the constructs of learning theory which can find application in the adult education class. Two

410. (cont'd)

categories of learning theories are identified: perceptual or insight, and elemental (stimulus-response). A stimulus-response learning model is generalized from the theories of Hull: Behavior or performance (E) = Learning or strength of habit (H) times Motivation or drive (D), and applied in examples of human learning. Human learning involves practice, reinforcement, knowledge of results, and meaningfulness.

411. mPS

Laubach Literacy Program of Dysart Community Center, El Mirage, Arizona. El Mirage, Ariz.: Dysart Community Center, 1974 (ERIC Document Reproduction Service No. ED 108 156)

Literacy program materials used with nonEnglish-speaking adults in ABE courses are described.

412. PSmo; PSap(t)

Lauffer, A. Continuing education as problem-focused extension. Journal of Education for Social Work, 1972, 8(3), 40-49.

Discussion of a continuing education program paradigm based upon a problem solving model which includes these steps: (1) definition of problem; (2) development of a structure of relationships concerned with resolution of the problem; (3) formulation of policy; (4) implementation of plans; (5) monitoring, feedback, and evaluation.

413. PSap(a); cPSpr(a); cPSpr(s)

Lebow, M. D. Age, degree of training, and type of extradimensional shift in normally intelligent humans. Journal of Experimental Education, 1971, 39(3), 46-53.

Examined the relationship among age, amount of training, and type of task in their effects on extradimensional shift performance. Seventy-two M Ss, aged 5 to 21 years, trained to one of three criteria and performed one of two extradimensional shift tasks. Older Ss made fewer errors in training and in transfer. Adults could verbalize correct solutions; children could not. Neither overtraining nor pretraining had an effect on extradimensional shift performances. Ease of adult training and transfer compared to children appears to be related to adult Ss' ability to label the stimulus cues and S-R contingencies.

414. PSap(a); PSap(t); cPSpr(m); cPSpr(a)

Leggette, E. C. The effect of a structured problem-solving process on the ability of capable but poorly prepared college freshmen in mathematics. New Brunswick, N. J.: Rutgers University, 1973. (ERIC Document Reproduction Service No. ED 090 043)

Control group study to determine whether an increase in problem solving ability can be observed in a sample (N = 70) of capable but poorly prepared M college freshman after they have been

414. (cont'd)

taught to use discovery techniques. After a one week instruction period on a structured problem solving process using heuristics and 8-weeks of reinforcement, the problem skills of the experimental group had increased significantly when compared to those of the control group.

415. cPSpr(a); cPSpr(s)

Lemke, E. A., et al. The relationship of selected cognitive abilities to concept attainment and information processing. Madison, Wis.: Wisconsin University, Research and Development Center for Learning and Re-Education, 1966. (ERIC Document Reproduction Service No. ED 010 513)

Factor analysis study of the relationship of selected cognitive abilities to tasks of concept attainment and information processing based on performances of a sample of 94 F college students. Three abilities: general reasoning, induction, and verbal comprehension, were found to be significantly related to concept attainment and information processing, two relatively distinct abilities.

416. PSap(a); cPSpr(a); cPSpr(s)

Lester, F. K. Developmental aspects of children's ability to understand mathematical proof. Journal for Research in Mathematics Education, 1975, 6(1), 14-25.

416. (cont'd)

Examination of simple elements of mathematical proof, by considering the making of a proof as a complex problem solving task, in which 80 students in grades 1 through 12 participated. Analysis of performances on problem solving tasks indicated that problem solving ability increased with age. Additional research is needed on an analysis of problem solving strategies with scholastic aptitude, reading ability, and subject matter aptitude as covariates. (Ed.: completed with a child/adolescent sample; may have relevance for developing studies on adult problem solving.)

417. ePS

Levine, E. L., & Weitz, J. Relationship between task difficulty and the criterion: Should we measure early or late? Journal of Applied Psychology, 1971, 55(6), 512-520.

Test and extension of Weitz's (1961) hypothesis that there are three major dimensions along which criteria may vary: (1) time at which criteria are measured, (2) level of difficulty of criteria, i. e., easy or hard, and (3) type of criteria, i. e., ratings, errors, etc. Two of the criteria are interrelated: if a task is easy, maximal differentiation will appear relatively early in the task; if the task is hard, relatively late (regardless of content of independent variable). In this study, using a sample of 192 M and F undergraduates, these constructs were

417. (cont'd)

applied to group performance measures with data derived from social psychology, as opposed to the individual performance measures in Weitz's study.

418. mPS

Lewis, H. Increasing fluency of reading for disadvantaged adults: A second-step program of reading (Doctoral dissertation, University of Miami, 1974). Dissertation Abstracts International, 1974, 35(6), 3381A. (University Microfilm No. 74-28,037)

Development and validation of structure and materials for a reading program for functionally illiterate adults with the objective to increase reading fluency through modifying the students' reading strategies from a letter-by-letter or word-by-word approach to a phrase and sentence approach are described.

419. mPS

Life coping skills categories and sub-categories, areas of the information needs of disadvantaged adults. Morehead, Ky.: Morehead State University, June 1973. (ERIC Document Reproduction Service No. ED 087 395).

Detailed information on two coping skills categories, i. e., advocacy and aging, and their sub-categories, perceived as areas

419. (cont'd)

of information for disadvantaged adults. The categories are subdivided as follows: (1) advocacy--(a) arrests; (b1) bill of rights, (b2) civil rights movement, (b3) legal rights under the law, (b4) general; (c) consumer rights; (d) legal aid. (2) aging--(a) aging process; (b) burial insurance; (c) care of aged in home; (d) death; (e) funerals; (f) nursing and rest homes; (g) programs, organizations, and agencies for the aged; (h) retirement; (i) wills.

420. mPS

Life Skills: A course in applied problem solving. Prince Albert, Saskatchewan: Saskatchewan NewStart, Inc., 1972. (ERIC Document Reproduction Service No. ED 068 741)

Book describes the Life Skills course and gives examples of how problem solving is taught as well as suggestions for implementing the course. Life Skills course, based on concepts and techniques from education, social work, and behavioral sciences, is designed to assist adults in the development of problem solving skills to be applied to the management of personal affairs. (Available from: Publications Satellite, P. O. Box 1565, Prince Albert, Saskatchewan S6V 5T3)

421. mPS

Life Skills coaching manual. Prince Albert, Saskatchewan:

421. (cont'd)

Saskatchewan NewStart, Inc., 1972. (ERIC Document Reproduction Service No. ED 070 846.

Manual gives detailed information to be used in implementing a Life Skills course; course designed to assist adults in the development of appropriate problem solving behaviors in the management of personal affairs. (Available from: Publications Satellite, P. O. Box 1565, Prince Albert, Saskatchewan S6V 5T3)

422. mPS

Life Skills coach training manual. Prince Albert, Saskatchewan, Saskatchewan NewStart, Inc., 1971. (ERIC Document Reproduction Service No. ED 050 346)

Presents techniques for the counseling of unemployed adults in solving their personal problems and in developing a problem solving approach to the management of their personal affairs. (Available from: Publications Satellite, P. O. Box 1565, Prince Albert, Saskatchewan S6V 5T3)

423. PSmo; PSap(a); PSap(t)

Liu, I. M. Sequential hypothesis-testing behavior. American Journal of Psychology, 1974, 87(4), 593-607.

Exploration of three models used by Ss to find a route from a problem to its solution: (1) Sequence Unit Model--when a sequence of hypotheses does not lead to a solution, S may give

423. (cont'd)

up the sequence and try an entirely new one; (2) Backward Revision Model--S may give up only the last hypothesis in the sequence and revise backward until he comes up with a correct sequence; (3) Step Squeezing Model--S may "squeeze" the initial steps and revise backward, or "squeeze" the last steps and revise forward. All the alternate hypotheses which a S tested out were in his immediate memory.

424. cPSpr; cPSen

Lloyd, A. S. Freire, conscientization, and adult education. Adult Education, 1972, 23(1), 3-20.

Detailed outline of Freire's educational theory accompanied by examples of its application in literacy programs and education for social change and suggestions for its implementation in American ABE programs.

425. PSap(a); PSap(t)

Loftus, E. F., & Suppes, P. Structural variables that determine problem-solving difficulty in computer-assisted instruction. Journal of Educational Psychology, 1972, 63(6), 531-542.

Five structural variables determine problem solving difficulty in computer-assisted instruction (derived from experimental work with math.): (1) sequential structure--each problem a different

425. (cont'd)

type from the one that preceded it; (2) operational structure--solution of a problem requires a large number of different operations; (3) depth--surface structure of problem is complex; (4) length--problem has large number of words; (5) conversion--problem requires a conversion of units.

426. PSap(t); cPSpr; cPSen

London, J. The influence of social class behavior upon adult education participation. Adult Education, 1970, 20(3), 140-153.

Analytic interpretation of responses from survey study plus a review of the literature indicates a tendency for adults with more education to seek additional education, while adults with less education tend to shun it. Educational experiences should be relevant and meaningful to adults. For adults with an anxiety about learning, programs should be designed to promote early success. Working class adults can increase participation in adult education if programs are better planned; financial support is available; improved facilities are provided for day and evening programs; programs are based on the premise that adults can learn, given education and training relevant to their lives and levels of attainment; and if adults are encouraged to acquire tools for learning needed for success.

427. cPSpr; cPSen

Londoner, C. A. Perseverance versus nonperseverance patterns among adult high school students. Adult Education, 1972, 22(3), 179-195.

Questionnaire study in which 134 M and F adult high school students, aged 18 to 55 years, participated, was designed to test the action model of T. Parsons through the hypothesis that perseverers would be more externally oriented, nonperseverers more internally oriented. Chi square analysis indicated that, in general, as age, employment, and income increased and marital status became fixed, the importance of external goals increased. A shift to specific tangible goals available through adult education was observed in perseverers; the opposite for nonperseverers. As greater personal responsibilities are assumed by the adult learner, he is more likely to complete his educational program. (Reference: Parsons, T. The social system. Glencoe, Ill.: Free Press, 1951.)

428. PSap(t); cPSpr; cPSen; ePS

Long, H. B., & Ulmer, C. Are they ever too old to learn? Englewood Cliffs, N. J.: Prentice-Hall, 1971.

Cogent discussion of factors in adult learning. Chronological age is an index; attention should be focused on the individual potential of each adult student, and on variables such as education, personality, experiences, health, economic position.

428. (cont'd)

Learning is defined in terms of adaptive behavior; studies of learning should be based on relative considerations in a specific environment. Cognitive and noncognitive factors in learning are explored. Factors in the assessment of adult learning are analyzed, including the problems of using tests appropriate for young people to measure adult performance. A section on planning procedures for adult learning and problem centered techniques for teaching adults is included.

429. ePS; mPS

Lopez, F. M. A management tool: The In-Basket exercise. Simulation/Gaming/News, 1973, 1(6), 1,12.

Description of a simulation technique, the "In-Basket" exercise, which can be used as a learning and as an evaluation device for development of problem solving skills.

430. cPSpr(a); cPSpr(s); mPS

Lopez, R. L. Listening comprehension of adult students as a function of speaking rate and selected listener variables (Doctoral dissertation, University of Missouri, 1974). Dissertation Abstracts International, 1975, 36(1), 28A. (University Microfilm No. 75-16,017)

Sixty-three adults enrolled in ABE programs, grades 4 though 12, participated in a study of the interaction of word rate and

430. (cont'd)

grade level on Ss' ability to understand compressed speech material. Adult Ss could comprehend material at 175 and 225 words per minute. Grade level did not affect ability, given material within Ss' ranges of comprehension.

431. cPSpr; cPSen

Lorge, I. Capacities of older adults. In W. T. Donahue (Ed.). Education for Later Maturity: A Handbook. New York: Whiteside & Morrow, 1955. Pp. 36-59.

Cognitive abilities of adults remain active and develop through the life span if the individual has opportunities to and reasons for using them.

432. cPSen(e); cPSen(s); mPS

Luke, R. A. The role of the professional association in continuing professional education. Illinois: University of Illinois, College of Education, 1972. (ERIC Document Reproduction Service No. ED 069 946)

Discussion, which focuses on training programs which require cooperative decision making patterns and which are aimed at career development, delineates the roles of the training institution, employer, and professional association.

433. PSap(t); cPSpr(a); cPSpr(s); mPS

Lumsdaine, A. A., et al. Learning and optimization of cog-

433. (cont'd)

nitive capabilities (Final project report). Seattle, Wash.: University of Washington, 1970. (ERIC Document Reproduction Service No. ED 047 522)

Report on a series of experimental studies in human cognition which investigated problem solving and learning using computer-aided techniques for the purpose of exploring the effectiveness of man-machine systems.

434. PSap(a); PSap(t); cPSpr(a); cPSpr(s)

Lycette, W. H. Effects of training in overcoming set responses in mature adults (Doctoral dissertation, University of Washington, 1972). Dissertation Abstracts International, 1973, 33(12), 6064B. (University Microfilm No. 73-13,854)

Ninety-six young (33.5 years) and old (58 years) M and F Ss living in an intermediate care facility participated in a study designed to explore the effectiveness of a technique developed to retrain adults to overcome set responses and to change problem solving strategies no longer appropriate for shorter less taxing methods. ANOVA results indicated that, across all conditions, younger Ss showed greater reductions in set responses; across sex and age, Ss with training decreased use of set responses; control group showed significantly smaller decline.

435. PSap(t); cPSpr(a)

McCullers, J. C. Verbal paired-associate learning in children and adults with anticipation, recognition, and recall methods. Developmental Psychology, 1971, 5(1), 112-117.

Experimental study designed to compare the performances of adults (undergraduate Ss) and children (6th grade Ss) under 11 learning conditions and to study acquisition as a function of the learning method used, indicated that under 9 of the 11 conditions adults learned faster than children. Better performances were obtained for all Ss under the recognition as opposed to the anticipation or recall methods.

436. mPS

McDermott, J. J. (Ed.). A teacher's guide for the environmental impact of electrical power generation: Nuclear and fossil. A minicourse for secondary schools and adult education. Harrisburg, Pa.: Pennsylvania State Department of Education, 1973. (ERIC Document Reproduction Service No. ED 099 199)

Problem-oriented curriculum which can be used in adult education courses was presented.

437. ePS; mPS

McElreath, M. P. Developing a strategy for adult education via mass media. Adult Education, 1974, 25, 23-33.

Discussion of the effectiveness of the RFD Program of life coping skills presented over instructional television. Formative and

437. (cont'd)

summative evaluation techniques used indicate potential for presenting content which will be perceived by adult "audience" as worth learning. Feedback mechanism designed to encourage learner participation appears to improve effectiveness of program.

438. cPSpr(a); cPSpr(s); cPSen

McFadden, E. G. A study of the effects of self-concept of academic ability, role strain and significant others on adults in the general education program in Flint, Michigan (Doctoral dissertation, University of Michigan, 1975). Dissertation Abstracts International, 1976, 36(9), 5741-5742A. (University Microfilm No. 76-5610)

Questionnaire study of graduates and dropouts of a GED program to determine the effects of self concept of academic ability, role strain, and significant others on completion or noncompletion of the program indicated (1) no differences between mean scores of GED graduates and dropouts on perceived evaluations of students' academic ability by parents, wife or husband, friend, teacher; (2) graduates experienced lower role strain than dropouts; (3) all program participants chose teacher as their academic significant other; the general significant other for graduates was parents.

439. PSmo; cPSen

McFadden, J. A bi-cultural approach to ESL for adults: A Paulo Freire model of the basic learning group. Educational Research Quarterly (California Journal of Educational Research), 1974, 25(5), 289-293.

Elaboration of a 5-point model, based on Freire's "learning group" construct, explained in terms of experiences and needs in the field of bi-cultural adult ESL education includes methodological suggestions for ESL teachers. Five points discussed are: content, democracy, dialogue or problem posing, codification, and praxis (or, the way learners come to know things through reflection combined with action).

440. mPS

McGee, L., et al. (Comp.). Selected strategies for teaching adults. Nashville, Tenn.: Tennessee State Department of Education, 1977. (ERIC Document Reproduction Service No. ED 131 453)

Methodology of adult education, including ABE, includes materials and techniques for working with adults (ESL materials for Indo-Chinese refugee).

441. mPS

McKee, J. M. Materials and technology of adult basic education for corrections. Athens, Ga.: Delivery Systems of Adult Basic Education in Corrections, 1971. (ERIC Document

441. (cont'd)

Reproduction Service No. ED 059 447)

Report and recommendations about the instructional systems which appear to have potential for being most effective in the area of Correctional Adult Basic Education concluded that ABE materials should be programmed, modularized, and presented in a way that allows frequent feedback to the learner on his progress.

442. PSap(t); mPS

McKenzie, L. R. Participation training: Introduction and analysis. Viewpoints, 1975, 51(4), 1-33.

Detailed description of Participation Training, a system which has been used predominantly for problem solving and education in nontraditional settings, is accompanied with recommendations for its use in adult education programs.

443. mPS

McKenzie, L. R. Simulation games and adult education. Adult Leadership, 1974, 22(9), 293-295.

Overview of uses, types, and responses to simulation games used in adult education concludes that they are effective educational tools because they are (1) highly motivating, (2) invite active participation in learning, (3) facilitate learner interactions in group learning situations, and (4) encourage

443. (cont'd)

problem solving and decision making.

444. PSap(t); mPS

McKinley, J. Participation training in perspective: Problems, issues and futures. *Viewpoints*, 1975, *51*(4), 78-88.

Nature of the Participation Training (PT) program needs to be described in an systematic way and studies are needed on the psychosocial characteristics of PT participants and the effects of these characteristics on group functioning in PT sessions, as well as on PT trainer characteristics and their relationship to PT outcomes.

445. PSap(t); cPSpr(m); cPSpr(a)

McLoughlin, D. Participation of the adult learner in program planning. *Adult Education*, 1971, *22*(1), 30-35.

Control group study of the influence of participation in course planning on adult student achievement and attitude indicated that participation significantly affected attitude in a positive direction but did not necessarily have any effect on achievement.

446. mPS

McMillan, E. *A demonstration of the interrelating of library and basic education services for disadvantaged adults (Ric*

446. (cont'd)

land County School District #1). Morehead, Ky.: Morehead State University, 1973. (ERIC Document Reproduction Service No. ED 087 400)

Detailed description of the coordination of library services and ABE course objectives to meet the needs of the adult students are presented.

447. cPSpr(m); cPSpr(s); cPSen(c); cPSen(s)

MacDonald, W. S. Responsibility and goal establishment: Critical elements in Job Corps program? Perceptual and Motor Skills, 1967, 24(1), 104.

Extension of responsibility to group to encourage individual responsibility for completion of Job Corps training assignments is considered feasible. However, before application in practice experimental clarification is needed for selected role variables.

448. mPS

MacVicar, P. A demonstration of the interrelating of library and basic education services for disadvantaged adults (West Virginia Model Center). Morehead, Ky.: Morehead State University, 1973. (ERIC Document Reproduction Service No. ED 087 401)

448. (cont'd)

Description of library activities, stemming from coordination of library services and ABE programs, designed to meet coping skills needs of disadvantaged adults.

449. mPS

MacVicar, P. Library - ABE projects, case studies. Morehead, Ky.: Morehead State University, 1973. (ERIC Document Reproduction Service No. ED 087 397)

Case studies, each illustrating a coping skill area, of the manner in which individual needs were recognized and met through the provision of library materials and services in a project coordinating library activities with ABE programs.

450. PSap(t); cPSpr(m); cPSpr(a); mPS

Madison, J. P. NCTE/ERIC summaries and sources-critical thinking in the English classroom. English Journal, 1971, 60(8), 1133-1140.

Critical thinking is a process and an ability based on capacity for making judgments and solving problems and composed of attitudes, knowledge, and aptitudes. Summaries included present an overview of critical thinking in relation to the teaching/learning environment and curriculum of the secondary English program. (Ed: not directly related to adult education, but some of the constructs may have applicability.)

451. PSap(a); cPSpr(s)

Maier, N. R. F., & Casselman, G. G. Problem-solving ability as a factor in selection of major in college study: Comparison of the processes of idea-getting and making essential distinctions in males and females. Psychological Reports, 1971, 28(2), 503-514.

Relationship between problem solving, defined as (1) idea getting: generating the idea necessary for solution and (2) making essential distinctions: capacity for discrimination which prevents accepting a wrong answer as correct, and self-selection of academic majors was studied using a sample of 612 M and F undergraduates. For all Ss, those in the physical sciences performed significantly better on problem solving tasks than other major groups. Female Ss did better on "idea getting;" male Ss on "making distinctions."

452. cPSpr(a); cPSpr(s); ePS

Maier, N. R. F., & Casselman, G. G. The SAT as a measure of problem-solving ability in males and females. Psychological Reports, 1970, 26(3), 927-939.

Investigation of the relationships between abilities involved in the solution of insight problems (i. e., problems where failure to solve is due to oversight, overgeneralization, and inability to generate essential idea) and those essential for "success" on the SAT based on the performances of 474 M and F

452. (cont'd)

undergraduates. Data analysis indicated that SAT (math.) performances were correlated with problem solving ability; SAT (verbal) performances, not. Male Ss solved significantly more problems than F Ss.

453. PSmo; mPS

Mardell, E. A. Curriculum guide: Life Skills course for corrections. Prince Albert, Saskatchewan: Saskatchewan NewStart, Incorporated, 1972. (ERIC Document Reproduction Service No. ED 070 845)

Adaptation of Life Skills course lessons to needs of inmates at a correctional facility focuses on social rehabilitation in which inmates practice attitudes and behaviors to develop constructive relationships, i. e., interpersonal relations, basic communication, problem solving, and use of leisure time (assist adult in making and implementing a decision to enter an occupational training program). Lessons based on 4-step problem solving model: (1) recognition of problem, (2) choosing alternate solutions, (3) implementation of solution, and (4) evaluation.

454. mPS

Martin, E. P. The development of subject matter for performance objectives and the development and field testing of cri-

454. (cont'd)

terion-referenced test items for Stage I adult basic education students in the Memphis city schools (Doctoral dissertation, Florida State University, 1975). Dissertation Abstracts International, 1975, 36(1), 119A. (University Microfilm No. 75-15,501)

Experimental study for the purpose of developing and validating criterion referenced instruments for assessing Stage I ABE students in these skills areas: personal development, health and safety, social/civic responsibility, home and family, world of work, consumer education, and leisure time, plus the basic skills of reading and math., as they reflect the adult's ability to "successfully cope" with life tasks.

455. cPSpr; cPSen

Matthiasson, C. J. Coping in a new environment: Mexican Americans in Milwaukee, Wisconsin. Urban Anthropology, 1974, 3(2), 262-277.

Survey study of a working-class sample of Mexican Americans in Milwaukee reports on the method of adjustment to a changed life style and the extent to which respondents appear to rely on traditional patterns of solving social and economic problems.

456. PSap(a)

Mattson, D. E., & Stolurow, L. M. Psychological and education-

456. (cont'd)

al factors in transfer of training: Phase I. Learning how to learn under several cue conditions. Urbana, Illinois: Illinois University, Bureau of Educational Research, 1963. (ERIC Document Reproduction Service No. ED 012 816)

Investigation of three kinds of transfer effects (transfer effect defined as "changes in ability to deal with situations not encountered during training") in relation to learning rate, and of the usefulness of cue-response correlations in explaining transfer effects, based on performances by a sample of undergraduates. Largest transfer effect was "warm-up" effect followed by "learning-to-learn" effect; no significant effect associated with "cue repetition." Cue-response correlations were of use in interpreting performance results.

457. PSap(a); PSap(t)

Mayer, R. E. Acquisition processes and resilience under varying testing conditions for structurally different problem-solving procedures. Journal of Educational Psychology, 1974, 66(5), 644-656.

Exploration of S's initial assimiliative set, i. e., cognitive activity during learning, on subsequent application of knowledge used two teaching methods: (1) calculating with formula and (2) meanings of variables in formula, for instruction in binomial

457. (cont'd)

probability with 225 undergraduates. Results of a multilevel transfer posttest indicated that Ss taught by method #1 excelled in near-transfer items; by method #2, on interpretive items. S's initial assimilative set in acquiring new knowledge appears of importance with respect to the level of the subsequent use of that knowledge.

458. PSap(a); PSap(t)

Mayer, R. E., & Greeno, J. G. Restructuring of meaningful information. Ann Arbor, Mich.: University of Michigan, Human Performance Center, 1974. (ERIC Document Reproduction Service No. ED 108 961)

Investigation of the relationship between meaningfulness of problem statements and undergraduate student Ss use of these statements in problem solving tasks yielded a three-way interaction among meaningfulness, problem type, and grouping. Symbolically stated problems (i. e., "meaningless" problems) involving more than one formula took much longer when the formula came from different sets; for meaningful problems no such difference occurred. Ss appeared to reorganize meaningful material for themselves; used instructor's organization for symbolic (i. e., "meaningless") material.

459. mPS

Maynard, B. J. Evaluator's report to the national interest council. Dallas, Tex.: Public Library, 1972. (ERIC Document Reproduction Service No. ED 068 124)

460. mPS

Mayor, A. S. The role of the public libraries in adult independent learning. New York, N. Y.: College Entrance Examination Board, 1976. (ERIC Document Reproduction Service No. ED 126 936)

Coordination and use of public library facilities, materials, and services with adult education programs, including ABE, are discussed.

461. PSap(a); PSap(p); PSap(t)

Meichenbaum, D. Self-instructional strategy training: A cognitive prothesis for the aged. Human Development, 1974, 17(4), 273-280.

Review of the literature on problem solving with children and older adults reveals similar patterns of results: poor problem solving ability associated with comprehension, production, and mediation deficiencies. Self-instructional strategy procedure, designed to teach principles of use of heuristic processes and mediational devices, is described which can be used to compensate for age-associated deficiencies associated with poor problem solving.

462. ePS

Melton, R. G. Needs assessment: Common sense in education. Catalyst for Change, 1974, 4(1), 9-11, 26.

General discussion of needs assessment as a procedure for systematically identifying the gaps between "what is" and "what should be" and for determining the resource costs to meet the needs is presented.

271d. mPS

Memory, D., & Lamarre, M. Health and medical care: A functional content unit. Athens, Ga.: Georgia University, 1975. (ERIC Document Reproduction Service No. ED 120 460)

See entry #271: Georgia University, Tutor Support Library.

271e. mPS

Memory, D., & Palmatier, R. A. Consumer credit as a topic for adult literacy training: A functional content unit. Athens, Ga.: Georgia University, Regional Adult Literacy Service Unit, 1975. (ERIC Document Reproduction Service No. ED 120 459)

See entry #271: Georgia University, Tutor Support Library.

271f. mPS

Memory, D., et al. Helping adult literacy students to get and keep a job: A functional content unit. Athens, Ga.:

271f. (cont'd)

Georgia University, 1975. (ERIC Document Reproduction Service No. ED 120 461)

See entry #271: Georgia University, Tutor Support Library.

463. mPS

Meredith, L. H. Occupational essentials: Skills and attitudes for employment (Instructor's guide and lesson plans). Rockford, Ill.: H. C. Johnson Press, Inc., Vocational Education Division, 1971. (ERIC Document Reproduction Service No. ED 098 359)

Unit guide for a course in Occupational Essentials includes behavioral objectives and instructional activities for each of 38 lesson plans.

464. PSmo; ePS

Messick, S. J. Beyond structure: In search of functional models of psychological process. Psychometrika, 1972, 37(4), 357-375.

465. PSmo; ePS

Messick, S. J. Beyond structure: In search of functional models of psychological process. Princeton, N. J.: Educational Testing Service, 1972. (ERIC Document Reproduction Service No. ED 073 159.

Need to progress beyond structural models of personality and

465. (cont'd)

intellect to develop sequential models of psychological processes, especially of such complex psychological phenomena as problem solving, learning, and creativity, is stressed. Factor analysis has already delineated component processes basic to the development of these sequential models.

466. PSap(t); cPSpr(a); cPSen(s); mPS

Metcalf, R. J. A study to compare the effectiveness of a programmed linguistic spelling kit with traditional methods of teaching spelling to functionally illiterate adults in correctional institutions (Doctoral dissertation, Florida State University, 1971). Dissertation Abstracts International, 1972, 32, 6083-6084A. (University Microfilm No. 72-13,540)

Controlled group study to compare the effectiveness of programmed instruction versus traditional methods in teaching spelling to samples of functionally illiterate M Ss in a correctional facility yielded results that indicated that while spelling achievement was not significantly different between the two groups, the increase in achievement was higher for the programmed instruction group.

467. PSap(t); cPSpr(a)

Miller, G. E. A computer-assisted experiment on the process of learning and problem-solving under the condition of goal-

467. (cont'd)

direction (Doctoral dissertation, University of Maryland, 1970). _Dissertation Abstracts International_, 1970, _31_(3), 1081-1082A. (University Microfilm No. 70-14,946)

ANOVA experiment designed to study the effect of goal direction on rate of performance and achievement during computer oriented instruction, knowledge testing, and problem solving in which a sample of adults enrolled in advanced computer programming course participated. In terms of rate of performance, goal direction had no effect on instruction, knowledge testing, or problem solving; similar results were obtained for achievement and the three variables. Programming aptitude was a relevant variable with respect to instruction, rate of performance, and nongoal related problem solving achievement. Typing skill was a relevant variable with respect to rate of performance during instruction and problem solving.

468. PSap(t); cPSpr(m); cPSpr(a); cPSpr(s); mPS

Milner, S. _Learner-controlled computing: A description and rationale_. Washington, D. C.: Catholic University of America, 1974. (ERIC Document Reproduction Service No. ED 092 157)

Exploration of the nature of learner controlled computing with examples from case studies, indicated that cognitive outcomes of learner control include relatively specific learning and

468. (cont'd)

thinking skills, and more general and systematic methods of problem solving. Affective outcomes include self confidence, curiosity, exploratory behaviors, and motivation.

469. cPSpr(a); cPSpr(s)

Mirza, M. S. A study of cognitive structure among adults: Piaget's formal operational stages (Doctoral dissertation, University of Georgia, 1975). Dissertation Abstracts International, 1976, 36(12), 7811A. (University Microfilm No. 76-13,971)

Study designed to investigate differences in cognitive structure, and cognitive differences within Piaget's formal operations stage, among adults differing in age, educational background, and sex. Data were obtained from Ss' performances on two Piagetian tasks: pendulum test and liquids test. Results indicated that only slightly more than half the sample had reached the formal operations stage (as measured by the two Piagetian tasks); the higher the education level, the higher tended to be the level of cognitive development. Performance on the Piagetian tasks correlated significantly with WAIS vocabulary scores. Evidence that cognitive development continues into adulthood and beyond the highest stage of formal operations described by Piaget; the four substages of the formal operations stage were qualitatively different from one another.

470. mPS

Mitzel, M. A. The Functional Reading Word List for adults. Adult Education, 1966, 16(2), 67-69.

A 5,000-word Functional Reading Word List has been compiled to reflect reading needs of the average illiterate American adult.

471. PSap(t); mPS

Mobley, J. E. The open campus school. Adult Leadership, 1972, 20(7), 237-238; 267.

Description of an alternate delivery system for adult education programs: the open campus high school, which has flexibility for development and implementation of a curriculum adapted to student needs. Open campus school population ranges in age from 16 to 55 years.

472. PSap(t); cPSpr; cPSen; mPS

Mocker, D. W. Cooperative learning process: Shared learning experience in teaching adults to read. Journal of Reading, 1975, 18(6), 440-444.

Elaboration of a cooperative process **emphasizes problem** solving and critical thinking between teacher and pupil, and pupil and pupil. Adult students are involved in the selection of what is to be learned and why it is to be learned: application of material to adult student needs and goals. Concept

472. (cont'd)

designed to maintain a systematic approach to learning, but allow flexibility to accomodate individual learner characteristics.

473. mPS

Modifying English-as-a-Second-Language materials (for instructing ABE students). Albany, N. Y.: New York State Education Department, Bureau of Continuing Education Curriculum Development, 1974. (ERIC Document Reproduction Service No. ED 107 159)

Manual including curriculum content suggestions, methodological techniques, and activities appropriate for use with ESL ABE students, includes suggestions for adapting existing ESL materials for this specific population.

474. cPSpr(s)

Monge, R. H. Structure of the self-concept from adolescence through old age. Experimental Aging Research, 1975, 1(2), 281-291.

Cross-sectional study of 4,540 Ss' aged 9 to 89 years, in 5 age groups, responses to a semantic differential instrument indicated substantial continuity in self concept across the life span.

475. cPSpr(a); cPSpr(s)

Monge, R. H. Learning in the adult years: Set or rigidity. Human Development, 1969, 12(2), 131-140.

Summary report of findings from research studies by R. Kuhlen and E. Gardner on adult age differences in cognitive performances, with specific reference to learning set and rigidity, which had been completed using F Ss in two age groups: 30's and 60's. Overall, a substantial proportion of the response modes denoting rigid behavior, confusion, and response perseveration and omission with increasing age were due to inadequacies of learning sets of Ss. In addition, an affective reaction, a response to the threat posed by the learning task, was manifested in rigid-appearing behavior and was seen as another consequence of inadequate learning sets.

476. ePS

Monk, J. J., & Stallings, W. M. Classroom tests and achievement in problem solving in physical geography. Journal of Research in Science Teaching, 1975, 12(2), 133-138.

Experimental study, in which 200 undergraduates participated, designed to study changes in problem solving ability (i. e., application and analysis of information) related to modification in classroom testing procedures, found that these modifications had no apparent effect of Ss performances in problem solving after a semester.

477. mPS

Monroe, W. E., & Whitson, C. M. Unique prison school district emphasizes vo-ed training. School Shop, 1975, 34(7), 38-39.

Description of a model school district serving a correctional facility for first-offenders, 17 to 21 years, and of a follow-up study of the effectiveness of the educational programs offered, are presented.

478. ePS

Moore, A. B. Selected standardized noncognitive measures and their utility for the disadvantaged. Adult Education, 1972, 22(2), 110-121.

479. ePS

Moore, A. B. Noncognitive attributes of participants and non-participants in selected adult basic education programs (Doctoral dissertation, North Carolina State, 1970). Dissertation Abstracts International, 1971, 32(11), 154A. (University Microfilm No. 71-16,555)

Reliability of six noncognitive measures for use with an ABE population was studied in connection with an ABE pilot program. The six instruments were: (1) Rotter's Internal-External Control Scale, (2) Haller's Work Beliefs Checklist, (3) three scales on the Minnesota Survey of Opinion, (4) Moon-McCann Anomia Scale, (5) McCloskey-Schaar Anomia Scale, and (6) Tennessee Self-Concept

479. (cont'd)

Scale. Hoyt's ANOVA technique for estimating reliability was used. The total positive score and the identity-self scale of the Tennessee Self-Concept Scale were the only reliable scales based on performances of the sample of 343 ABE students in the pilot study; reliability was not high. (Reference: Hoyt, C. Test reliability estimated by analysis of variance. Psychometrika, 1941, 7, 153-160.)

480. PSap(a)

Morgan, B. B., Jr., & Alluisi, E. A. Acquisition and performance of a problem-solving skill. Perceptual and Motor Skills, 1971, 33(2), 512-523.

Investigation of the acquisition of skill in the performance of a 3-phase code transformation problem solving task, in which adult volunteers, 18 to 25 years, participated, indicated that problem solving skill appears to be improved with practice and that transformation complexity, in terms of the number of task phases, significantly affects the speed of skilled problem solving performance.

481. PSap(a)

Morrisett, L. M., & Hovland, C. I. A comparison of three methods varieties of training in human problem solving. Journal of Experimental Psychology, 1959, 58, 32-55.

481. (cont'd)

Experimental study of the hypotheses that (1) Ss who have a high degree of learning within a single problem and receive this training on more than one related problem will be superior to both a single-problem training group and a multi-problem training group where there is no learning to criterion, and (2) other things being equal, single-problem training will result in more transfer of training than will multi-problem training when learning within any one problem in the multi-training procedure is minimal, was completed with a sample of high school students. The relationships among learning to criterion and of presentation of several problems to insure generalization and transfer were verified. (Ed.: study used a high school sample; concepts can have application to the development of studies of transfer with adult samples.)

482. PSap(t)

Morrison, M. H. A human relations approach to problem solving. Gerontologist, 1976, 16(2), 185-186.

Discussion of the application of human relations techniques, e. g., trust, awareness, interdependence, to assist individuals in the development of skills in interpersonal problem solution is presented.

483. cPSpr(m); cPSpr(s); cPSen

Morstain, P. R., & Smart, J. C. Reasons for participation in

483. (cont'd)

adult education courses: A multivariate analysis of group differences. Adult Education, 1974, 24, 83-98.

Factor analysis and stepwise discriminant analysis of responses of 611 adults in adult education courses, divided into three age groups, on the Education Participation Scale (EPS) yielded these results: (1) 6-factors were identified on the EPS--(a) social relationships, (b) escape/stimulation, (c) external expectations, (d) professional advancement, (e) social welfare, and (f) cognitive interest; (2) social relationships and escape/stimulation accounted for the variance in the F Ss; social relationships and external expectations, for the M Ss; (3) social welfare was a significant factor for F Ss. The majority of Ss fell in the 21 to 40 year age group.

484. mPS

Mullen, D. Fluency First: Preparation for reading and writing. An oral English course (Instructor's Manual). Prince Albert, Saskatchewan: Training Research and Development Station, 1974. (ERIC Document Reproduction Service No. ED 105 767)

485. mPS

Mullen, [illegible]. Fluency First: Theory and methods. An oral English course. Prince Albert, Saskatchewan: Training Research and Development Station, 1974. (ERIC Document Reproduction Service No. ED 105 766)

486. mPS

Mullen, D. Fluency First: Instructor training course. Prince Albert, Saskatchewan: Training Research and Development Station, 1972. (ERIC Document Reproduction Service No. ED 082 199)

Instructor training and curriculum materials for a basic literacy course designed to teach oral English as a second language to adults of Indian ancestry.

487. cPSpr(s)

Muller, D. S. Individual differences in organizing information (Doctoral dissertation, Syracuse University, 1972). Dissertation Abstracts International, 1973, 33(9), 4546B. (University Microfilm No. 73-7749)

Study of the ways an individual organizes information matched with selected personality characteristics investigated specifically relationships among strategy type, strategy complexity, dogmatism, extraversion, neuroticism, sex, and performance time in a sample of 104 adults. Significant relationships were found between sex and strategy complexity. Intercorrelations between complexity and performance time, complexity and dogmatism, complexity and extraversion were among those found significant.

488. PSmo

Murray, S. L., et al. Research Utilizing Problem Solving:

488. (cont'd)

Outcome evaluation report, Improving Teaching Competencies Program. Portland, Ore.: Northwest Regional Educational Laboratories, 1976. (ERIC Document Reproduction Service No. ED 121 750)

Research utilizing problem solving (RUP) is an action-research model applicable when a problem solver senses a problem but is unclear about the kind of outcome required or desired. RUP is based on a 5-step process: (1) identify a concern, (2) diagnose the situation, (3) consider action alternatives, (4) test selected alternatives, and (5) adoption and diffusion.

489. cPSpr(m)

Myers, M. S. Who are your motivated workers? Harvard Business Review, 1964, 42(1), 73-88.

Six-year motivational research study of employees from five different job categories, highly skilled/technical/professional to unskilled, indicated that (1) perceived achievement is its own best reward, and (2) perceived failure its own best dissatisfier.

490. mPS

NAPCAE Publication Committee. Tested techniques for teachers of adults. Washington, D. C.: National Association for Public Continuing and Adult Education, 1972.

Instructional methodologies for working with adults, including disadvantaged adults, in learning settings are described in this booklet. Material presented is based upon characteristics of adults which have been found to affect learning.

491. cPSpr(m); cPSpr(a); cPSpr(s); cPSen(s); ePS

Napps, K. B. The relationship of self-concept and internal-external control to the academic achievement of learners in adult basic education programs (Doctoral dissertation, North Carolina State University at Raleigh, 1972). Dissertation Abstracts International, 1972, 33(4), 1404A. (University Microfilm No. 72-26,300)

Investigation of the relationship of arithmetic computation and problem solving skills (as measured by ability to solve practical "everyday" problems) to (1) intelligence (Raven's Standard Progressive Matrices), (2) self concept (Tennessee Self Concept Scale), (3) external versus internal control, (4) welfare recipient or not, (5) age, and (6) time elapsed between learning and testing, was completed using a sample of ABE Black F students, 18+ years. Results indicated (1) a significant negative relationship between self concept and arithmetic computation;

491. (cont'd)

(2) no relationship between self concept and problem solving skill or between internal-external control and either arithmetic variable; (3) age and intelligence positively related to arithmetic computation scores; and (4) no significant gains in arithmetic computation or problem solving skill among the Ss.

492. mPS

National Indian Education Association library project. St. Paul, Minn.: University of Minnesota, 1972. (ERIC Document Reproduction Service No. ED 066 195)

Description of library project to service Indian community educational needs includes data collection instruments used for and results of needs survey which provided information upon which project implementation has been based.

493. mPS

Nazzaro, L. B. Filmstrips, phonograph, records, cassettes: An annotated list of audio-visual materials. Philadelphia, Pa.: Free Library, 1971. (ERIC Document Reproduction Service No. ED 052 792)

Annotated list of materials available in the Reader Development Program collection; a Program designed to assist undereducated adults and young adults overcome educational, cultural, and economic deficiencies.

494. PSap(p); PSap(t); cPSpr(s)

Neale, J. C., Toye, M. H., & Belbin, E. Adult training: The use of programmed instruction. Occupational Psychology, 1968, 42(1), 23-31.

Study of the effect of age on learning through the use of programmed instruction, when the program was designed to provide factual information, yielded data which indicated that young adults benefited from the use of programmed instruction, but that older adults did not.

495. PSap(a); PSap(p); cPSpr(a); cPSpr(s)

Nehrke, M. F. Age, sex, and educational differences in syllogistic reasoning. Journal of Gerontology, 1972, 27(4), 466-470.

Investigation of age, sex, and educational differences on the ability of a heterogeneous sample of 1,020 adults, paid volunteers, to judge the validity of emotional and nonemotional syllogisms from Lefford's Syllogism Scales, modified to be relevant to present life situations. Results showed M Ss to be superior in problem solving; F Ss not be be effected by emotional content of syllogisms; Ss with more than a high school education to perform better on both types of syllogisms. While there was a decrease in problem solving ability with increasing age, older Ss, compared to younger, were not adversely affected by emotional content of syllogisms. Across all Ss, performances

495. (cont'd)

gave no support to the hypothesis that emotional content of material significantly interferes with reasoning processes.

496. mPS

Newlin, J. Communi-Link. A unique approach toward adult education programming. Adult Leadership, 1973, 21(8), 263-264; 270; 273.

Microville, a simulation game where participants become citizens in a mythical town, is the major aspect of the Communi-Link program which promotes cooperation among agencies to help solve the diverse problems of individuals in the community. Program activities include forming adult education councils and writing an adult education philosophy, assessing needs and wants, writing objectives, assessing local resources, and writing a program for community-wide adult education. One town's experience with Communi-Link resulted in cooperation among town agencies where they had been competitive.

497. PSap(a)

Newman, M. A. A developmental investigation of the priority effect. Developmental Psychology, 1975, 11(1), 106.

Priority effect from a developmental standpoint (i. e., in adult's multitrial free recall learning of unrelated items, items recalled for the first time tend to be recalled earlier

497. (cont'd)

than previously given items) was reexamined in 160 middle-class Ss in four groups: preschool, second grade, sixth grade, and adults. Priority effect was absent at the preschool level and present at the elementary and adult levels. The size of priority effect was directly related to age when controls for serial position bias were used.

498. cPSpr(m); cPSpr(a); cPSpr(s); cPSen

Newman, M. F. A descriptive study of coping behaviors and self-concepts observed among undereducated Appalachian adults. (Doctoral dissertation, University of Texas, 1975). Dissertation Abstracts International, 1975, 36(5), 2574A. (University Microfilm No. 75-24,930)

Exploration of the effect of length of time in an ABE program (new entrants versus 3 to 5 month participants) on level of coping skills required in everyday situations and attitudes about self (i. e., internal versus external control and sense of powerlessness) of 300 undereducated Appalachian adults in two states. Data collection was completed over a 6-month period. Analysis indicated no significant interactions between old and new participants and length of stay in ABE, self-concept, coping behaviors, attitudes about self, or environment (home, learning lab., or class). Results attributed to inability of ABE program to meet needs of participants. Recommendation that

498. (cont'd)

ABE programs take into account specific needs and values of participants in planning activities designed to assist individuals in their development of life coping skills, an inner sense of control, and a more positive self concept.

499. ePS; mPS

Nicholson, W. L. The assessment of a large urban school system's adult basic education program in relationship to the retention of Black adults (Doctoral dissertation, University of Pittsburgh, 1974). Dissertation Abstracts International, 1975, 36(1), 8990A. (University Microfilm No. 75-5141)

Questionnaire study to assess, organize, and restructure an ABE program to meet the needs of the ABE populations it serves. Data collected from stratified random samples of ABE populations, community representatives, adult educators, and ABE staff led to specific recommendations for improvement of program curriculum, staffing, instruction, and administration.

500. cPSen

Niemi, J. A. Communicating with the so-called disadvantaged--can we find a common ground? Missoula, Mont.: Northwest Adult Education Association, 1972. (ERIC Document Reproduction Service No. ED 069 947)

Problems of communication (i. e., "exchange of meaning between

500. (cont'd)

sender (encoder) of a message and receiver (decoder)") among culturally different groups, as they relate to effective ABE programs, are discussed by specific categories: traits in common among communicators, impediments to communications, implications of commonalities and impediments for adult education. Suggestions are made for effective use of communication in determining needs and values of ABE students.

501. PSap(t); mPS

Niemi, J. A. The meaning of lifelong learning. Missoula, Mont.: Northwest Adult Education Association, 1972. (ERIC Document Reproduction Service No. ED 068 833)

Learning is a change in behavior which results from experience; experience is the gathering of information and acquiring of social skills to put that information to work for whatever purpose the learner has in mind. Important that adult learners should participate in education and receive assistance in the acquisition of skills needed to pursue their own styles of lifelong learning. Lifelong learning is not equivalent to lifelong schooling.

502. cPSpr(m)

Noreen, D. S. Some implications of a concept of growth motivation for adult education theory and practice. Bloomington,

502. (cont'd)

Ind.: Indiana University, 1966. (ERIC Document Reproduction Service No. ED 019 543)

Growth-motivation is based on the theories of A. H. Maslow. The concept stresses the processes and content of experience. Self, desirable behavioral change, and the learning process are discussed within the framework of growth motivation related to adult education settings.

503. mPS

Nuttall, J. H., et al. A bibliography for tutors in correctional facilities. Albany, N. Y.: New York State Education Department, 1975. (ERIC Document Reproduction Service No. ED 114 804)

Discussion of tutoring in a correctional facility, with special reference to the environment of the facility and its effect on adult learners and an annotated bibliography related to reading instruction for institutionalized adults are presented.

377d. mPS

O'Bryan, R. C., & Iverson, J. J. Tree-fruit production. An instructional unit for teachers of adult vocational education in agriculture. Lexington, Ky.: Kentucky University, Division of Vocational Education, 1975. (ERIC Document Reproduction Service No. ED 112 255)

See entry #377: Kentucky University, Division of Vocational Education.

504. mPS

O'Connell, A. The newspaper and adult basic education. Continuous Learning, 1970, 9(4/5), 187-192.

Newspaper has strong potential as medium for instruction of adults in basic education programs, including programs in problem solving.

505. PSap(t); cPSpr(m); cPSpr(s)

Odom, R. D., Cunningham, J. G., & Astor, E. C. Adults thinking the way we think children think, but children don't always think that way: A study of perceptual salience and problem solving. Bulletin of the Psychonomic Society, 1975, 6(5), 545-548.

506. PSap(t); cPSpr(m); cPSpr(s)

Odom, R. D. et al. Adults thinking the way we think children think, but children don't think that way. Chapel Hill,

506. (cont'd)

N. C.: Paper presented at the Southeastern Conference of the Society for Research in Child Development, 1974. (ERIC Document Reproduction Service No. ED 097 970)

Two experiments designed to investigate the hypothesis that accurate performance on a simple conservation task need not be related to cognitive maturity, rather to the salience of the task material, was completed with a sample of 20 undergraduates and 20 3rd-graders. In general, adults did poorly while children did well, although both S groups expressed confidence in their judgments; adults used probability to complete the task, children used addition and subtraction. Salience of material interfered with adult performance. Perceptual characteristics of information, relative to population, are important in problem solving.

507. PSap(a); PSap(p)

Offenbach, S. I. A developmental study of hypothesis testing and cue selection strategies. Developmental Psychology, 1974, 10(4), 484-490.

Discrimination tasks were used to examine learning and cue selection (hypothesis testing) and to determine what strategies are employed in 100 white male and female Ss separated into three groups of children: first, third, and fifth graders, one of college sophomores, and one of senior citizens. No significant

507 (cont'd)

differences were observed between males and females. A high probability of repeating hypothesis testing after correct responses occurred and increased with age, except in the oldest Ss; oldest Ss were as likely to change cues after a correct response as they were to retain them. After errors hypothesis testing was seldom repeated except in the oldest Ss. Following errors, the oldest Ss were more similar to the youngest Ss who shifted to the alternate cue of the same dimension, than to the three middle groups who shifted to a cue from another dimension. Oldest Ss solved only half the problems for which they chose the correct cues. E suggests that each generation's exposure to different educational processes could have affected response strategies in learning situations.

508. PSmo; mPS

Ogden, W. R. A model for the development of competency based programs in supervision. Catalyst for Change, 1973, 3(1), 27-28.

Description of a 3-dimensional model stresses (1) problem solving, (2) human relations skills, and (3) professional knowledge as a guide for the development of competent supervisors.

509. cPSpr(m); cPSpr(s)

Okun, M. A. Risk-taking behavior in adulthood as a function of

509. (cont'd)

age and motivational instructions (Doctoral dissertation, Pennsylvania State University, 1975). Dissertation Abstracts International, 1976, 36(11), 7305A. (University Microfilm No. 76-10,772)

The effects of age and acceptant, neutral, and judgmental motivational instructions on risk-taking behavior in choosing difficulty levels for performance on a vocabulary task, were investigated in 96 adult males, half with a mean age of 21.7 years, and half with a mean age of 69.3 years. Older Ss selected tasks at which they had a higher probability of success than did younger Ss, and were less likely than younger Ss to prefer intermediate risk when their performance was being judged. The degree of cautiousness was modified by task performance condition; older Ss showed a stronger preference for intermediate risk in the acceptant than in the judgmental condition. Adult age was inversely related to raising level of aspiration following a success experience. Overall results suggested that older adults prefer to choose tasks on which past performance indicated high probability of success.

510. PSap(t); mPS

Olmstead, J. A. Theory and state of the art of small-group methods of instruction. Alexandria, Va.: Human Resources Research Organization, 1970. (ERIC Document Reproduction

510. (cont'd)

Service No. ED 040 345)

Effectiveness of small group instruction in teaching adults was evaluated. Methods evaluated included conference, leaderless discussion, topic discussion, buzz session, case method, Harvard method, incident process method, abbreviated case, role-playing, and committee problem solving. Small group methods were found to be effective in increasing motivation for learning, developing positive attitudes toward later use of course materials, and improving problem solving skills. Although small group methods were no more effective than lectures for teaching information and concepts, when used in conjunction with lectures, they helped increase understanding for the course content.

511. PSap(t); cPSpr(m); cPSpr(a); cPSpr(s); ePS

Olsen, B. G. The effectiveness of a self-instructional program in money management for undereducated adults (Doctoral dissertation, North Carolina State University at Raleigh, 1971). Dissertation Abstracts International, 1976, 36(9), 5743A. (University Microfilm No. 76-883)

Experiment designed to study the interaction of age, reading level, general ability (Raven's Progressive Matrices), and locus of control and quality of performance on a 4-lesson self-instruction program in money management, used a sample of Black

511. (cont'd)

Fs (aged 19 to 42 years, formal education from 8 to 12 years) enrolled in a program for disadvantaged adults. Achievement on the program was related positively to internal control, general ability, and reading level. Ss receiving reinforcement during self-instruction spent more time, but did no better, than Ss not receiving reinforcement. Older Ss took longer to complete the program.

512. PSap(t); mPS

Olsen, J. B., & Wright, W. J. Developers and evaluators engaged in formative product development. Portland, Ore.: Northwest Regional Educational Laboratory, 1976. (ERIC Document Reproduction Service No. ED 126 149)

RFD strategy includes outside change agents to introduce the strategy and share problem solving skills with local people, the development of a representative local school-community group, and the combined efforts of the school system and the school-community group in identifying and solving local educational problems. Several RFD manuals and guides provide the necessary training strategy, information resources, guidelines, materials, and procedures for implementing RFD strategy.

513. cPSpr; cPSen; mPS

O'Neil, S. L. Occupational survival skills implications for

513. (cont'd)

job maintenance and mobility. Springfield, Ill.: Illinois State Office of Education, 1976. (ERIC Document Reproduction Service No. ED 120 457)

514. cPSpr; cPSen; mPS

O'Neil, S. L. Worker perceptions of skills necessary for survival in the world of work. Springfield, Ill.: Illinois State Office of Education, 1976. (ERIC Document Reproduction Service No. ED 120 532)

Three open-ended questions concerning job satisfaction were asked of 589 adults between 18 years to over 65 years of varying occupational levels, as part of a Telephone Survey Format. The skills given the highest rating for job maintenance by at least 50% of the total respondents were dependability, understanding written information, following instructions, getting along with people with a variety of personalities, giving an honest day's work, managing time and materials efficiently, working without close supervision, knowing what is expected of you, maintaining good health, and knowing your own abilities, strengths, and weaknesses. Dependability, giving an honest day's work, knowing what is expected of you, maintaining good health, and managing time and materials efficiently appeared to be extremely important for occupational survival regardless of occupational classification. Salary, security, and work satisfaction were reasons for keeping a job; interpersonal relations,

514. (cont'd)

the aspect most frequently cited as disliked about a job.

515. mPS

On-the-job training: A practical guide for food service supervisors. Chicago, Ill.: Hospital Research and Educational Trust, 1975. (ERIC Document Reproduction Service No. ED 110 727)

Guide designed to be of assistance in the preparation, presentation, and evaluation of a Job Instruction Training (JIT) lesson; examples from food service occupations.

516. mPS

Operation young adults. Rochester, N. Y.: Rochester Jobs, Inc., 1971. (NTIS No. PB-203 906)

517. mPS

Operation young adults-a work-study program. Rochester, N. Y.: Rochester Jobs, Inc., 1972. (NTIS No. PB 214 578/7)

Report on the development and implementation of a work-study program designed for potential and actual high school dropouts.

518. mPS

Owens, M. R. The library advisory committee. Morehead, Ky.: Morehead State University, 1975. (ERIC Document Reproduction Service No. ED 112 884)

518. (cont'd)

Guidelines presented for the use of a community advisory committee to assist a library in providing services to disadvantaged adults.

519. cPSpr(a); cPSpr(s); cPSen

Owens, W. A. Age and mental abilities: A second adult follow-up. Journal of Educational Psychology, 1966, 57(6), 311-325.

Follow-up (1961) of 96 males (average age 61 years) originally tested as college undergraduates in 1919, and again in 1950, **determined** effects of an increment in chronological age on size of individual differences. Ss completed the Army Alpha test and an E-devised "Life Experience Inventory." Overall, the decade from 50 to 60 was found to be one of relatively constant mental ability, as indicated by standardized test performance. Variance present was accounted for by five factors: socioeconomic success (characterized by minimal external control); sensitive intelligence (habitual reading); physical vigor (work attitudes, self perception, health); introversion (lack of social enjoyment, negative attitudes toward others, poor health); and egocentric independence (selfishness, solitariness). Major components of a style of life were found to have moderated the relationship between age and mental ability.

271g. mPS

Palmatier, R. A. *Word concepts: An adult approach to decoding skills. Instructional concept guide no. 6*. Athens, Ga.: Georgia University, Regional Adult Literacy Service Unit, 1976. (ERIC Document Reproduction Service No. ED 120 358)

See entry #271: Georgia University, Tutor Support Library.

520. mPS

Palmatier, R. A., et al. *HELP: Inside and outside the tutoring agency*. Athens, Ga.: Georgia University, 1975. (ERIC Document Reproduction Service No. ED 120 357)

Tutor training concept guide, adaptable to the training of paraprofessional tutors for adult literacy programs, was described. Problem intervention strategy required that the tutor define and record the problem, and review the tutoring log for the student's reaction to activities and indications of developing patterns of need. Alternative methods included discussing the matter with the student and keeping a record of what was discussed, use of the Tutor Support Library, seeking out the supervisor's advice, and seeking the expertise of an outside agency consultant. (See entry #271 for related information)

271h. mPS

Palmatier, R. A., et al. *Teaching one-to-one: A diagnostic*

271h. (cont'd)

approach to beginning tutoring. Instructional concept guide no. 2. Athens, Ga.: Georgia University, Regional Adult Literacy Service Unit, 1975. (ERIC Document Reproduction Service No. ED 120 355)

See entry #271: Georgia University, Tutor Support Library.

521. mPS

Palmer, B. G., & Oldehoeft, A. E. The design of an instructional system based on problem generators. *International Journal of Man-Machine Studies*, 1975, *7*(2), 249-272.

Description of the design of an automated instructional system, developed for adult students, can be used with learning materials which exhibit hierarchical structures.

522. cPSpr(a); cPSpr(s); cPSen

Palmore, E. (Ed.). *Normal aging: Reports from the Duke University longitudinal study*. Durham, N. C.: Duke University Press, 1970.

Summaries of selected research reports from a longitudinal study indicate that the idea of a general and substantial decline of intelligence with increasing age does not appear to be the normal pattern. While disability may cause less physical activity among the aged it is unrelated to life satisfaction. Socioeconomic status, rather than race, is the primary social

522. (cont'd)

influence on activities and attitudes of the older adult. Patterns of activities and attitudes among the older adult Ss have tended to remain stable during 10+ year periods.

523. ePS; mPS

Palormo, J. M. Computer programmer aptitude battery. Chicago, Ill.: Science Research Associate, Inc., 1967. (ERIC Document Reproduction Service No. ED 012 876)

Aptitude test for screening individuals for computer programming instruction and/or tasks, which includes measures of problem solving, productive thinking, vocabulary skills, and professional training, has been standardized. (Available from SRA, Inc., 259 East Erie Street, Chicago, Ill., 60611)

524. PSap(a); PSap(p); cPSpr(a), cPSpr(s)

Panicucci, C. L. The effect of training on inductive reasoning behavior in young and old adults (Doctoral dissertation, University of Wisconsin, 1974). Dissertation Abstracts International, 1975, 35(7), 3562B. (University Microfilm No. 74-19,935)

Inductive abstract reasoning (as measured by the Speeded Test of Inductive Reasoning and the Letter Sets Test I-1) following trained, familiar, and unfamiliar pretest conditions was investigated in 36 Ss between 17 and 25 years, and in 36 Ss be-

524. (cont'd)

tween 65 and 75 years, all with a minimum of 12 years of education. There was no evidence for differences among pretest conditions in younger Ss. Older Ss in the familiar condition performed at a significantly higher level than older Ss in the unfamiliar condition, and at a higher level than older Ss in the trained condition. Test taking experience, speeded test condition, interference phenomena, insufficient training time, insufficient time interval between training and testing, mode of training, and fatigue were cited as possible factors affecting the performance of older Ss, particularly in the trained condition.

525. PSap(p); cPSpr

Panicucci, C., & Labouvie-Vief, G. Effect of training on inductive reasoning behavior. Paper presented at the Scientific Meeting of the Gerontological Society, Louisville, Kentucky, 1975.

Experimental study of age-related differences in abstract reasoning compared performances between young (17 to 25 years) and old (65 to 75 years) Ss to determine whether older adults' lower performance level could be an indication of an experiental deficit rather than of lowered competence. Ss were assigned, by age, to one of three pretest conditions: Trained, Familiar, or Unfamiliar, in relation to test-type materials. No differences

525. (cont'd)

appeared among the young Ss; older Ss in the Familiar condition performed significantly better than those in the Unfamiliar condition and higher than Ss in the Trained condition. Training enabled older Ss to improve scores.

526. PSap(a); PSap(t); cPS(s)

Pankowski, M. L. The relationship between group process training and group problem solving (Doctoral dissertation, Florida State University, 1972). Dissertation Abstracts International, 1972, 33, 2683A. (University Microfilm No. 72-31,421)

Investigation of relationships between training and effectiveness of group problem solving was completed with a sample of 16 undergraduates, matched and randomly assigned to experimental and control groups, and assessed on level of group interaction, quality of problem solutions, group cohesiveness, and course achievement. Analysis of pretest/posttest results indicated that group process training contributed to significantly higher levels in all the above areas except course content achievement.

527. mPS

Parfet, J. A. Business mathematics for Business Education departments in Pennsylvania's public schools. Harrisburg, Pa.: Pennsylvania State Department of Education, 1973.

527. (cont'd)

(ERIC Document Reproduction Service No. ED 085 507)
Teaching aid developed for use in individualization of instruction in business math. for the purpose of assisting students in the development of skills in the fundamental processes of business math., in problem solving techniques, and in evaluation. Examples of the use of three approaches to problem solving: analysis, graphic, and discovery, are presented.

528. PSap(t); mPS

Parks, E. R. The effects of the motion variable on performance of a psychomotor procedural learning task by adult occupational students (Doctoral dissertation, University of Southern California, 1975). Dissertation Abstracts International, 1976, 36(11), 7168A. (Order directly from the University of Southern California)

ANOVA experiment determined the effects of three motion picture film conditions of low motion still, regular motion, and high motion picture treatments on the application of a reverse spiral bandage by 108 experienced and inexperienced adult occupational students. Results indicated no significant difference between mean performance scores. No significant interaction between variables occurred. Ss with prior experience scored significantly higher than Ss with little prior experience.

529. PSap(t); mPS

Patten, T. H., & Stermer, E. P. Training foremen in work standards. Training and Development Journal, 1969, 23(11), 25-36.

Evaluation of the effectiveness of self-study compared the performance of samples of foremen in three plant locations using two variations of a 250-frame programmed text and two variations of a conventional text. Results indicated that programmed instruction appeared to have significant value for use in training foremen through self-study.

530. cPSpr(a); cPSpr(s); cPSen

Pawlik, K. Concepts and calculations in human cognitive abilities. In R. B. Cattell (Ed.). Handbook of multivariate experimental psychology. Chicago, Ill.: Rand-McNally, 1966. Pp. 535-562.

Detailed discussion of the integration of structural and developmental concepts in the theory of fluid (Gf) and crystallized (Gc) intelligence by J. L. Horn (pp. 553-561) emphasizes the distinction between Gf and Gc: concepts and aids related to the former reflect common experiences which can be acquired anywhere in the physical world; concepts and aids related to the latter, experiences attributable to a given culture. Gc improves well into adulthood, probably as long as acculturation "stays ahead" of any loss due to physical attrition, e. g., memory; Gf tends to decrease in adulthood.

531. mPS

Pearce, F. C. Evaluation through research. Stanislaus County Multi-Occupational Adult Training Project (General research findings, Report 5). Modesto, Calif.: Modesto Junior College, 1966. (ERIC Document Reproduction Service No. ED 011 354)

532. mPS

Pearce, F. C. Modesto Multi-Occupational Training Project (Report 1). Modesto, Calif.: Modesto Junior College, 1966. (ERIC Document Reproduction Service No. ED 011 619)

Description and evaluation of the effectiveness of the ABE programs initiated under this Project. Criteria of effectiveness are academic achievement, attitude modification relative to involvement, dropouts, job follow-up of students who became employed, student and teacher characteristics, and teaching effectiveness.

533. PSap(a); PSap(p); cPSpr(s)

Pecan, E. V., & Schvanveldt, R. W. Probability learning as a function of age, sex, and type of constraint. Developmental Psychology, 1970, 2(3), 384-388.

2 x 2 x 2 factorial design was structured to study the effects of age, sex, and stimulus sequence on prediction behavior of samples of adolescent (12 to 15 years) and adult (35 to 45 years) Ss. Overall, adult F Ss tended to repeat incorrect predictions;

533. (cont'd)

displayed determination to stay with predicting incorrect event until, by odds, it became correct. Adult M Ss approach to task tended to be comparable to approach to problem solving situations. M Ss predictions were accurate more frequently than those of F Ss.

534. PSap(t); cPSpr(s); cPSen(s)

Peck, D. M., & Jencks, S. M. Providing advantage to the disadvantaged. Mathematics Teacher, 1973, 66(5), 422-425.

Use elements of disadvantaged college students' everyday experiences as a base to assist them in building their mental efforts and achieving a stronger academic self concept and a usable body of math. Classroom environment structured to encourage student to think about and discuss math. problems; students allowed to do the thinking.

535. PSap(t); cPSpr(m); cPSen(s)

Pedler, M. Teaching students to learn. Adult Education (London), 1972, 45(2), 87-91.

Forty college graduates who completed an independent, self-teaching project expressed a need for study groups, and used contacts in everyday life for advice, information, encouragement and praise. Nearly all underestimated their learning gain indicating a dependency upon teachers and institutions. Problems dealt with included a lack of fundamental knowledge, de-

535. (cont'd)

veloping, regaining, and maintaining learning skills, dealing with frustrations, the application of knowledge to real-life situations, finding and joining fellow learners for stimulation, overcoming laziness, and dealing with possible unpleasant consequences of learning. Recommended were nonteacher centered methods such as programmed learning, group exercises, and projects, and the availability of librarians, tutors, counselors, and the institution as resources for projects.

536. cPSpr(m); cPSen; mPS

Peters, J. M., & Gordon, R. S. Adult learning projects: A study of adult learning in urban and rural Tennessee. Knoxville, Tenn.: University of Tennessee, 1974. (ERIC Document Reproduction Service No. ED 102 431)

Examination of adults' self-directed learning projects, pursued largely outside an adult education program, was based on data from 475 Ss in rural and urban areas. Ss, randomly selected, ranged in age from 18 to 90 years. Data, gathered through questionnaire survey and personal interview, yielded the following ranked list of self-motivated learning projects: (1) vocational and job related, (2) hobbies, (3) home and family, (4) personal development, (5) general education, (6) public affairs, (7) religious studies, (8) agriculture and farming. Adults are learning on their own in spite of adult education programs a-

536. (cont'd)

vailable; the latter appear not to meet adult needs, e. g., content, schedule, format.

537. cPSpr(m); cPSpr(s); cPSen

Peters, J. M. Internal-external control, learning and participation in occupational education. Adult Education, 1969, 20(1), 23-43.

Amount of control and noncontrol relevant information learned by internal and external Ss (as measured by Rotter's Internal-External Locus of Control Scale). and the likelihood of their participation in voluntary occupational education programs, was determined in 216 inmates between 18 and 65 years. A higher proportion of low external than medium or high external Ss participated in education programs, with participation decreasing as the degree of externality increased. A significant increase in retention scores with decreasing levels of externality occurred for non-control information. Implications included the use of psychological dimensions to describe education program participants, and the use of differing degrees of internal-external control to help explain motivational differences.

538. cPSpr(a); cPSpr(s); cPSen(c); cPSen(s)

Piaget, J. Intellectual evolution from adolescence to adulthood. Human Development, 1972, 15, 1-12.

538. (cont'd)

In considering intellectual evolution from adolescence to adulthood emphasis is placed on the interaction between cognitive activity and cultural conditions, that is, on experiential factors most important in the adult portion of the life span. Three hypotheses are possible regarding cognitive development in adulthood: (1) difference in speed of development without any modification of the order of succession of stages; (2) diversification of aptitudes within stages; or (3) consider formal operations are free from concrete content but this holds true only on the condition that for the Ss the situations involve equal aptitudes or comparable vital interests, that is, the logico-mathematical or physical nature of the experimental situations used to study formal operations may not be applicable equally to all Ss. The last hypothesis appears to have the greatest potential for generating studies yielding data descriptive of cognitive functioning in adulthood.

539. PSap(t); mPS

Pine, G. J., & Horne, P. J. Operation Mainstream: A report on problem solving and the helping relationship. Durham, N. H.: New England Center for Continuing Education, 1968. (ERIC Document Reproduction Service No. ED 040 365)

Descriptive report of the implementation and evaluation of the effectiveness of a counselor aide training program designed to

539. (cont'd)

assist nonprofessionals in increasing knowledge, developing skills, and changing attitudes with respect to self-knowledge, communication, problem solving (use facts systematically in decision making), interviewing, personal limitations, referral (recognize problems that can be handled by others), available facilities, and ways of relating to community persons and recourses. Problem solving is considered a systematic process of step-by-step techniques in which it is preferable to allow an individual to identify his own starting point.

540. PSap(p); PSap(t); cPSpr(m); cPSpr(a); cPSpr(s); cPSen

Pinnock, T. J., et al. Results of an exploratory study of functional illiterates in Macon County, Alabama. Tuskeegee, Ala.: Tuskeegee Institute, 1966. (ERIC Document Reproduction Service No. ED 010 123)

Experimental study designed to determine whether adult students under 40 years could learn more in 2 weekly meetings of a basic education course than those over 40 years, meeting 3-times weekly and receiving a small cash incentive. Ss were 118 functional illiterates from a total group of 658 Black and Caucasian adults attending a basic education program. The older group significantly outperformed the younger group; oberservation indicated that the cash incentive was the decisive factor. For all Ss,

540. (cont'd)

WAIS scores showed significant increases after, as compared to before, the experimental class.

541. PSap(t)

Platt, J. J., Siegel, J. M., & Spivak, G. Do psychiatric patients and normals see the same solutions as effective in solving interpersonal problems? Journal of Consulting and Clinical Psychology, 1975, 43(9), 279.

Investigation of the differences between two adult groups in effectiveness of solving interpersonal problems identified three abilities as characteristic of successful problem solvers: (1) ability to generate possibilities when confronted with interpersonal problems; (2) ability to recognize relative effectiveness of means of resolving each problem; and (3) ability to think through rationale underlying a course of action.

542. cPSpr(a); cPSpr(s)

Plemons, J. K., Willis, S. L., & Baltes, P. B. Challenging the theory of fluid intelligence: A training approach. Paper presented at the Scientific Meeting of the Gerontological Society, Louisville, Kentucky, 1975.

Control group study designed to investigate the validity of the assumption that fluid intelligence (Gf) declines steeply with increasing age worked with 30 Ss, aged 59 to 85 years,

542. (cont'd)

in a Figural Relations training program. The group completing the training program significantly increased ability to handle Figural Relations. In addition, a hierarchical pattern of transfer of training effects was observed for Ss in the experimental group.

543. cPSpr(m); cPSpr(a); cPSpr(s); cPSen

Poulton, C. B. The relationship of adults' participation in continuing education activities to certain demographic and positional characteristics, orientation toward learning, and orientation toward continuing education institutions (Doctoral dissertation, Michigan State University, 1975). Dissertation Abstracts International, 1975, 36(6), 3336A. (University Microfilm No. 75-27,318)

Examination of the interaction among age, sex, marital status, occupation, income, level of formal schooling, and parental responsibility and orientation toward learning and toward continuing education institutions related to the continuing education activities of a sample of 210 adults. Occupation, income and sex showed strongest relationships to learning orientation. Parental responsibility was strongly related to institutional orientation; sex and age somewhat less. Occupation, level of formal schooling, and age were most strongly related to participation in continuing education.

544. PSap(t); cPSpr(a); cPSpr(s); cPSen

Price, H. G. Achieving a balance between self-directed and required learning. Journal of Education for Social Work, 1976, 12(1), 105-112.

Adult education activities should be directed toward assisting a student learn how to use his initiative and intuition and develop strategies for self discipline so that he can handle problem solving constraints and ambiguities; and also toward guiding a student develop adequate standards of performance. Theoretical base for suggestions is primarily that of M. Knowles: self-concept of adult learner moves from dependency to self-direction; adult accumulates a growing reservoir of experience that becomes a source for learning; readiness to learn becomes oriented toward the developmental tasks of social roles; time perspective changes from postponed to immediate application of knowledge; and orientation toward learning shifts from subject centered to problem centered.

545. cPSpr; cPSen

Problem solving in professional adult education. Washington, D. C.: Adult Education Association, Commission of Professors of Adult Education, 1974. (ERIC Document Reproduction Service No. ED 106 672)

Discussion of factors which affect performances of adult students in continuing education, namely, unique needs, economic stress,

545. (cont'd)

educational needs secondary to economic, family life, perception of self as "too old to learn." Adult counselor has specialized services to perform in adult learning settings.

546. mPS

Project ENABLE: Extern network of adult basic education leaders, 1970-1971. East Lansing, Mich.: Michigan State University, Department of Administration and Higher Education, 1971. (ERIC Document Reproduction Service No. ED 056 312)

Discussion of the implementation and evaluation of a pilot project designed to facilitate delivery of ABE services provided by higher education institutions.

547. cPSpr; cPSen

Puder, W. H., & Hand, S. E. Personality factors which may interfere with the learning of adult basic education student. Adult Education, 1968, 18(2), 81-93.

Survey of the research literature in order to better understand the learning characteristics of culturally disadvantaged adults and to study certain emotional factors which appear to inhibit participation in organized educational activities, as well as effective learning, in these four categories: self concept; belief-disbelief systems; relation of "closed" social environment to "closed" mind; and personality characteristics related

547. (cont'd)

to learning. Some of the personality characteristics or factors which tend to interfere with the learning of ABE students include alienation, avoidance, hostility toward authority, withdrawal, violent aggression, fear of schools, self image as illiterate, rejection of the wish to develop intellectually, mental blocks against the world, rigid value system.

548. PSap(t); mPS

Puryear, W. H. A comparative effectiveness study of the programmed instruction textbook mode and the video-taped case method mode on adult learning and retention of information (Doctoral dissertation, Catholic University, 1972). Dissertation Abstracts International, 1973, 33, 3246A. (University Microfilm No. 73-1342)

Comparison of the effectiveness of programmed instruction text versus videotape case methods of presentation for the purpose of identifying the more effective mode for adult learners used a geographic cross-sectional sample of 96 male Ss, matched on variables related to learning and assigned to one of two groups: E-devised learning gain and retention pretests and posttests used to collect data. ANOVA results indicated programmed instruction to be significantly more effective than videotape with respect to learning; no differences were found with respect to retention.

549. mPS

Rabeau, E. S. Health auxilliary training. Instructor's guide. Washington, D. C.: Public Health Service, 1966. (ERIC Document Reproduction Service No. ED 023 827)

Guide developed by the Training Branch of the Division of (American) Indian Health, designed to equip aides drawn from the reservation population to work in the Division's community health activities. Instructional units are included for the various topics.

550. mPS

Rawles, B. Deposit collections for disadvantaged adults. Morehead, Ky.: Morehead State University, 1974. (ERIC Document Reproduction Service No. ED 098 980)

551. mPS

Rawles, B. Rotating or deposit collections of special materials for disadvantaged adults. Morehead, Ky.: Morehead State University, 1974. (ERIC Document Reproduction Service No. ED 087 394)

552. mPS

Rawles, B. Selection of special materials for disadvantaged adults. Morehead, Ky.: Morehead State University, 1974. (ERIC Document Reproduction Service No. ED 087 391)

Description of a series of library services available for disadvantaged adults. Services have been coordinated with ABE programs, especially Life Coping Skills Program of the Ap-

552. (cont'd)

palachian Adult Education Center.

553. PSap(t); cPSpr; cPSen; ePS; mPS

Readings on adult education: 10th Conference of 100+ Proceedings. Washington, D. C.: Adult Education Association, 1973. (ERIC Document Reproduction Service No. ED 070 935)

Set of papers focusing on ABE dealt with the necessity for measurement and evaluation and their relationship to the teacher-learning process and goals of the student, weaknesses in evaluation, a proposal of methods and objectives for individualized instruction, and welfare education programs for undereducated, minority adults. The evaluation of administrators and teachers as well as students to enhance program quality was advocated. Not only standardized tests, but adequately trained teachers who understand the measurement process were deemed necessary to evaluate student progress. Weaknesses in evaluation procedures such as emphasizing minor successes and lack of familiarity with the measuring instrument were pointed out. Individualized methods of instruction such as the concentrated small group approach were proposed in order to meet the needs of the learner and provide a more flexible learning experience. Recommended that welfare education programs include the skills necessary for urban living: reading, arithmetic and social living, and counseling to improve the learner's self-image.

554. cPSpr(m); cPSen; mPS

Recruiting adult education students: An individualized teacher education model (Pilot review draft). Tallahassee, Fla.: Florida State Department of Education, Division of Vocational, Technical and Adult Education, 1973. (ERIC Document Reproduction Service No. ED 103 571)

Learning module designed to help administrators and teachers of adults identify and promote specific recruitment techniques, was defined in terms of program objectives, designed to increase adult education enrollment. Examples of enabling objectives from the module are presented.

555. PSap(t); mPS

Reeves, T. M. Programmed instruction for adult learners. Adult Education, 1962, 13(1), 59-61.

Given (1) effective "programs" can be developed, and (2) adult learners are at specific times internally motivated, programmed instruction can be a great advantage in adult education, especially for these characteristics: individual pacing, privacy for learner, cost effectiveness, time reduction, maximization of use of staff time.

556. mPS

Reich, D. L. The Dallas Public Library independent study project. Dallas, Tex.: Dallas Public Library, 1972. (ERIC Document Reproduction Service No. ED 068 122)

557. mPS

Reich, D. L. The Dallas Public Library independent study project. Dallas, Tex.: Dallas Public Library, 1971. (ERIC Document Reproduction Service No. ED 068 121)

Report includes a description of the development, implementation, and evaluation of the Independent Study Project, an adult education project of the Dallas Public Library.

558. PSap(t); mPS

Reid, A. Turn to p. 84..... Glencoe, Minn.: Open Door Books, 1974. (ERIC Document Reproduction Service No. ED 097 267)

Presentation of game-planning strategies designed to help instructors and students design games to fit particular individual, school, or community needs. Focus is on strategies and plans recommended for classes in social problems, human relations, and allied topics.

559. PSap(p); mPS

Report on the development of the national drug education program information support system as of December 1, 1972 and final report September, 1973. Rochester, New York: Rochester University, 1973. (ERIC Document Reproduction Service No. ED 085 634)

Summary of a comprehensive report on the National Drug Education Program includes a description and sample selection of all

559. (cont'd)

current reports generated from data in the system with a discussion of their relationship to problem solving strategies of the program. Program includes activities designed to bring about conditions necessary to reduce the level of drug abuse, namely, open communication among youth, parents, teachers; availability of meaningful alternatives to drugs; development of feeling of self worth and control of one's life; willingness on part of significant others to accept alternate life styles; improved perception of what consequences of drug abuse are.

560. PSap(t); cPSpr(a); cPSpr(s)

Resmondo, B. Reading instruction and technical retraining in the community college for disadvantaged adults. Paper presented at the Annual Meeting of the International Reading Association, Denver, Colorado, 1973. (ERIC Document Reproduction Service No. ED 073 436)

Description of the Waubonsee hearing program for hearing impaired disadvantaged adults, including undergraduates. Individualized instruction, provided mainly through a communications lab. in combination with lecture and class participation, has been designed to improve English, reading, vocabulary, and writing skills. Goal of program is to provide services which will allow hearing impaired students to participate in adult education activities on an equal basis with hearing students.

561. cPSpr(s); cFSen(s); ePS

Rhyne, D. C. Adult education and the rational-irrational dimension of prejudice. Adult Education, 1973, 23(3), 203-233.

Adult education program devised to reduce prejudice examined attitude change on rational-irrational and anti-prominority dimensions as well as the relationship between attitude change and variables of social attitude set, group learning method, race, age, and sex. Ss were 72 junior high school teachers and counselors. Rational and irrational prominority types increased in both group learning methods (structured and unstructured). There was a greater attitude change toward tolerance on the rational-irrational antiminority dimension of prejudice among Ss with high and medium racial attitude sets, who were 41 years and older.

562. PSap(a); PSap(t)

Rice, K. M. The impact of contracting courses upon the decision-making behavior of adult students (Doctoral dissertation, Teachers' College, Columbia University, 1976). Dissertation Abstracts International, 1976, 36(12), 7902A. (University Microfilm No. 76-13,494)

Procedure of contracting courses, designed for adult men and women in nontraditional higher education was based on a decision making paradigm, i. e., examination of personal values, consider-

562. (cont'd)

ation of relevant information, and an understanding of various strategies by which one chooses a course of action. Sixty-four participants were studied. The courses were found to be effective in teaching this decision making process.

563. PSap(t); cPSpr; cPSen

Richardson, D. C. Factors affecting the participation of adults in Texas programs of adult basic education (Doctoral dissertation, University of Texas, 1975). Dissertation Abstracts International, 1976, 36(2), 1124A. (University Microfilm No. 75-16,725)

Exploratory analysis of participation-related factors, classified as situational, dispositional, or program related, which affect enrollment, attendance and program completion rates of Texas ABE adults found that Anglos in Texas have lower rates of enrollment, but higher rates of attendance and program completion than Blacks or Mexican-Americans; that the desire and perceived need for remedial education is greater among Blacks and Mexican-Americans, but that they have greater obstacles to participation; that lower SES adults have lower rates of participation (enrollment, attendance and completion). Situational, dispositional and program related factors appeared to be the significant variables.

564. PSap(t); cPSen(c); cPSen(e); cPSen(s)

Richterich, R. The analysis of language needs. Education and Culture, 1975, 28, 9-14.

System of modern language learning for adults which can provide flexible educational materials and strategies requires more specificity of knowledge of the language needs of people. Suggested that more attention be given to who is learning, what language, for what purpose, and the use of the language within a specific social group. The role of the specialist, choice of content and strategies, and analysis as an integral part of learning, are discussed.

565. ePS; mPS

Riedel, R. G. Appendix: Instructions and corresponding questions and answers. Chicago, Ill.: Loyola University, Psychometric Laboratory, 1963. (ERIC Document Reproduction Service No. ED 080 578.

Nine problems used in a study of problem solving processes are included in this document, accompanied by scoring and performance data. (Ed.: not designed for use with an ABE population; constructs have relevance for ABE problem solving study.)

566. cPSpr; cPSen

Riegel, K. Dialectic operations: The final period of cognitive development. Human Development, 1973, 16, 346-370.

566. (cont'd)

Dialectic (Hegalian) basis, which emphasizes the interaction between cognitive activity and cultural conditions, is needed for an interpretation of cognitive development in adulthood. Experiential factors are most important in the adult portion of the life span; adults may operate simultaneously or in short succession at different cognitive levels. The construct, dialectic operations, introduces intra- and interindividual variations into Piaget's theory.

567. cPSpr; cPSen

Riley, M. W., & Foner, A. Aging and society. Volume 1: An inventory of research findings. New York: Russel Sage, 1968.

568. cPSpr; cPSen

Riley, M. W., Riley, J. W., & Johnson, M. E. (Ed.). Aging and society. Volume 2: Aging and the profession. New York: Russell Sage, 1969.

569. cPSpr; cPSen

Riley, M. W., Johnson, M., & Foner, A. Aging and society. Volume 3: A sociology of age stratification. New York: Russell Sage, 1972.

The three volumes of Aging and Society summarize the results of recent social science research on middle-aged and older people and interpret the knowledge in terms of sociological theory and

569. (cont'd)

professional practice. Volume 1 condenses and organizes social science findings related to the individual: physiological, psychological, and social aspects of development, and his social roles. Volume 2 interprets the data presented in Volume 1 for several professional fields concerned with the well-being of older adults, including education. Volume 3 includes a descriptive statement on the life course of individuals as an illustration of a model of age stratification.

570. cPSpr; ePS

Rimoldi, H. J. A., Fogliatto, H. M., Erdman, J. B., & Donnelly, M. B. Problem solving in high school and college students (Cooperative Research Project No. 2199). Chicago, Ill.: Loyola University, Loyola Psychometric Laboratory, 1966.

Experimental study of problem solving processes and strategies in samples of high school and college students designed for the purpose of identifying individual tactics in approaching and carrying through problem solutions and the relationships between the tactics and variables of training, academic performance, intelligence (i. e., scholastic aptitude). Study included also validation data on techniques and assessment devices for analyzing problem solving performances.

571. PSap(a); PSap(p); PSap(t); cPSpr(a); cPSpr(s)

571. (cont'd)

Rimoldi, H. J. A., & Vander Woude, K. W. Aging and problem solving. Archives of General Psychiatry, 1969, 20, 215-225.

Developmental changes in cognitive performance observed in a cross-sectional sample, aged 9 through 78 years, were described through a study of problem solving processes or tactics. An increment, then decrement in performance found with increasing age: after age 50 there was a decreased ability to change set; older Ss were not able to generalize and used inappropriate strategies. "Language," as the mode of presentation used to realize the formal properties of a problem and contribute to problem difficulty, had a constant effect which was statistically significant over the age range.

572. PSap(t); mPS

Rivera, W. M. Project AIM: A new way to teach coping skills. Community College Review, 1975, 3(2), 12-18.

AIM has been designed to teach coping skills to ABE students, including ABE/ESL students. Emphasis is placed on solving practical, everyday, life problems. To carry out this objective, AIM materials are developed locally under a set of general guidelines.

573. PSap(a); cPSpr(a)

573. (cont'd)

Roberge, J. J. Effects of negation on adults' disjunctive reasoning abilities. Journal of General Psychology, 1976, 94(1), 23-28.

Assessment of the relative difficulties of inclusive (either P or Q or both) and exclusive (either P or Q but not both) disjunctive reasoning schemes and the effect of negation on these two types of disjunctive reasoning found that with a group of adult graduate students, exclusive disjunctive arguments were easier than inclusive disjunctive arguments. Location of the negative(s) in the major premise had an effect on the number of reasoning errors and a differential effect according to type of disjunction.

574. PSap(a); cPSpr(a)

Roberge, J. J. Effects of negation on adults' comprehension of fallacious conditional and disjunctive arguments. Journal of General Psychology, 1974, 91(2), 287-293.

Study of the effects of negation on adults' propositional reasoning abilities in which adult Ss evaluated conclusions for two types of fallacious conditional arguments and their logically equivalent disjunctive forms. Use of "not" was varied systematically within the major premise of each argument. Negation in the major premise had a significant effect on reasoning;

574. (cont'd)

effect varied according to the type of reasoning. Significant interaction occurred between type of reasoning and principle of inference. Patterns of error among Ss' responses were consonant with those found in previous studies with adults and children.

575. PSap(a); cPSpr(a)

Roberge, J. J. Effects of structure and semantics on the solution of pure hypothetical syllogisms. Journal of General Psychology, 1972, 87(2), 161-167.

Effects of a structural factor (i. e., premise order) and a semantic factor (i. e., negation in the minor premise) on adult abilities to reason with pure hypothetical syllogisms were studied with a group of undergraduate and graduate student Ss. In general, for conditional reasoning tasks, negation had only a minimal impact on deductive reasoning abilities of Ss of high general ability who had reached the formal operations stage. Response differences were related to differences in age and content of syllogisms, i. e., concrete versus abstract.

576. PSap(a); cPSpr(a)

Roberge, J. J. Some effects of negation on adults' conditional reasoning abilities. Psychological Reports, 1971, 29(3) 839-844.

576. (cont'd)

Exploration of the effects of negation on adults' abilities to perform basic conditional reasoning tasks when the presence of negation in major and minor premises was systematically varied, indicated no difference in reasoning ability with negative or affirmative conclusions. More errors were made with a negative antecedent; fewest errors with a negative consequent.

577. mPS

Roberts, A. D., & Zirkel, P. A. Computer applications to instruction. Journal of Secondary Education, 1971, 46(3), 99-105.

Category by category summary of areas in which the computer is being used in education is presented to show that the computer is a feasible method of instruction which can reinforce efficient learning and reform ineffective teaching.

578. PSap(t); cPSen; mPS

Roberts, J. T. Adult literacy. Adult Education (London), 1974, 46(6), 410-412.

Spoken or written language should immediately be identified with actual objects and pictures in the real world in order to teach the illiterate adult to read. Suggestion that teachers learn the relationship between language and the physical world

578. (cont'd)

and consider "Direct Method" techniques to be used in teaching foreign languages and ESL.

579. ePS

Roberts, W. B. Identifying a power elite in a microcosmic adult community. Toledo, Ohio: Toledo Hospital, 1974. (ERIC Document Reproduction Service No. ED 092 797)

Observation instrument to identify power elite in two 8-member discussion groups was tested. Defined areas of power are initiation, positive sanction, veto and persuasion. The study concluded that a power elite can be identified in discussion groups and that the instrument can be used to identify such persons.

580. mPS

Robertson, J. E. Your attitude is showing (Assignment manual and answer book). Austin, Tex.: University of Texas, 1972. (ERIC Document Reproduction Service No. ED 076 744)

Designed to be complementary to the text of the same title, this manual provides suggestions for individualizing instruction in human relations and attitude development.

581. mPS

Robinson, J., & Barnes, N. (Eds.). New media and methods in

581. (cont'd)

industrial training: The principles of training design and some new resources for implementing them. London, Eng.: BBC Publications, 1968. (ERIC Document Reproduction Service No. ED 023 998)

Summarizes current uses of task and skill analysis in industrial training and considers the contributions of the following to training: programmed instruction, directed independent study, group discussion, problem solving, role playing, and media: educational radio and television.

582. ePS; mPS

Robinson, R. D. The cloze procedure: A new tool for adult education. Adult Education, 1973, 23(2), 87-98.

Cloze procedure was studied as a potential solution to the problem of testing reading ability in adults, and selecting reading materials of a meaningful nature for adult instruction. Based on results with 57 adult inmate males, use of this procedure is recommended to (1) replace the standardized reading test, (2) use with assigned texts to diagnose reading differences, (3) inaugurate class discussion (based on individual responses), and (4) select specific materials for individual students (based on performance on short cloze passages).

583. PSap(a); cPSpr(a); cPSpr(s)

Rollins, B. C., & Calder, C. Academic achievement, situational stress, and problem-solving flexibility. Journal of Genetic Psychology, 1975, 126(1), 93-105.

To explore discrepancies found in relationships between situational stress and problem solving flexibility, performances of 22 10th-grade, M, academic underachievers and overachievers were studied. Curvilinear relationship was found between situational stress and problem solving flexibility. Underachievers experiencing failure were lower on problem solving flexibility than underachievers experiencing success. Overachievers experiencing failure were the most flexible. (Ed.: not an adult sample; constructs can contribute to design of studies of adult problem solving.)

584. mPS

Roman, R. A. The word problem program: Summative evaluation. Pittsburgh, Pa.: Pittsburgh University, Learning Research and Development Center, 1975. (ERIC Document Reproduction Service No. ED 113 212)

The Word Problem Program utilizes the combined approaches of information processing and structural variable to create and sequence instructional objectives, each of which contains problems of homogeneous difficulty.

585. PSap(t); mPS

Roman, R. A. Teaching problem solving and mathematics by computer: An interim report. Pittsburgh, Pa.: Pittsburgh University, 1974. (ERIC Document Reproduction Service No. ED 101 690.

Computer based learning model for teaching mathematics content and effective problem solving skills through a structuring of the environment by sequencing problems in which the student can induce organizational rules. Further research recommended to determine interaction effects of aptitude with treatment, develop a model of ideal problem solving program, clarify methodology for creative teaching sequences, and develop additional programs to broaden scope of application.

586. PSap(a); cPSpr(a); cPSpr(s)

Rondal, J. A. Investigation of the regulatory power of the impulsive and meaningful aspects of speech. Genetic Psychology Monographs, 1976, 94(1), 3-33.

Luria's hypothesis of verbal regulation, the ability to conform one's behavior to a preliminary plan, was investigated in 112 Ss in four sets of experiments, three with normally developing young children, and one with normal adults between 22 and 37 years, and adolescent boys. Results from adult Ss point to an important participation of inner speech in motor performance, and an increasing probability of covert verbalization with increasing task difficulty. The adult experiments suggested

586. (cont'd)

that the spontaneous, meaningful verbal auto-accompaniments do not occur constantly, but cluster at the beginning of the task with the rate of disappearance depending upon the S's relative easiness with the task.

587. ePS

Rose, A. M., et al. Methods for predicting job-ability requirements: II. Ability requirements as a function of changes in the characteristics of an electronic fault-finding task. Washington, D. C.: American Institute for Research in the Behavioral Sciences, 1974. (ERIC Document Reproduction Service No. ED 099 403)

Study of the relationships between characteristics of human tasks and abilities required for task performance was completed by identifying ability requirements from (1) knowledge of the characteristics of the task, and (2) variations in conditions of task performance. Data, from performances on a battery of reference ability tests and on the actual task under different conditions, were factor analyzed to yield referent abilities. Technique, illustrated with an electric fault-finding task, can be applied in other areas.

588. ePS; mPS

Rosenkranz, C. I. R. The efficacy of Cloze procedure for

588. (cont'd)

estimating reading ability of students and readability of materials in adult fundamental education programs (Doctoral dissertation, University of Wisconsin at Madison, 1975). Dissertation Abstracts International, 1976, 36(8), 4964A. (University Microfilm No. 75-23,868)

The application of Cloze procedure in adult literacy programs was investigated in 35 Ss in advanced ABE classes and 50 Ss in high school equivalency classes. Fewer than 25% of the Ss rated Cloze procedure uninteresting. More advanced students showed higher mean scores than less advanced Ss. Means scored on passages of similar difficulty levels were significantly correlated. Data was insufficient to advise substitution of Cloze for standardized tests.

589. PSap(t); mPS

Rossman, M. H. An alternate Adult Basic Education curriculum. Adult Leadership, 1973, 22(1), 23-26.

Adult learning rates vary depending on interest, past experience, and other contingencies (adult is not "grown up" child); he learns better when actively involved in the process. Age is not a significant factor in learning; decline in ability probably more attributable to inactivity than age. ABE curriculum should train adults for future as well as present, include basic

589. (cont'd)

skills as well as leisure time activities, and be offered in a learning environment not threatening to individual learners. Alternate structures, e. g., adaptation of "Open University" concept, should be considered for adult education programs.

590. PSap(p); PSap(t); cPSpr(a); cPSpr(s)

Rowe, E. J., & Schnore, M. M. Item concreteness and reported strategies in paired-associate learning as a function of age. Journal of Gerontology, 1971, 26(4), 470-475.

Spontaneous use of mediators (repetition, verbal, imagery) by 48 paid adult F Ss, ages 18 to 72 years, investigated using both concrete and abstract paired associate word lists under standard learning conditions. Young and middle-aged Ss reported greater use of all three strategies than older Ss; strategies were reported more frequently for abstract pairs by young Ss, whereas the same was true for older Ss with concrete pairs. All age groups used verbal mediators more often for abstract pairs, while imagery was used for the concrete. Item correctness had a facilitative effect on paired associate learning with all age groups.

591. cPSpr(a); cPSpr(s)

Rubin, K. H. Extinction of conservation: A life span investigation. Developmental Psychology, 1976, 12(1), 51-56.

591. (cont'd)

Investigation of life span conservation development used a cross-sectional sample of 180 M & F Ss in 8 age groups: grades 2, 5, 7; young adult; middle-aged adult; elderly; institutionalized elderly. Ss completed a Piagetian conservation task, giving reasons for their responses. Results indicated that for the Ss in the study, conservation appeared to be reversible; develops in a curvilinear fashion; elderly Ss' performances more similar to those of Ss in grades 2, 5, and 7.

592. PSap(t)

Ruddock, R. Two small-group self-teaching methods. Adult Education (London), 1975, 48(4), 258-261.

Two methods suggested for teaching problem solving which eliminate teaching but draw upon and mobilize knowledge already existing in adult students, making this knowledge generally available and useful: (1) type of brainstorming designed to avoid one-track discrimination and one-member domination; and (2) structured, task-based, personal encounter using resource packets.

593. mPS

Ruddock, R. All right on the night--a survival kit for absolute beginners. Adult Education (London), 1972, 45(3), 143-145.

593. (cont'd)

Do's and don'ts for the novice tutor of adult classes were offered. It was advised that tutors arrive early to inspect the room, arrange seating to allow eye contact, acknowledge students as they arrive but avoid losing authority position to class leader or others, record and memorize names and seating positions, in groups of less than 20 invite people to indicate their particular interest in the class, ask for comments on the syllabus, elicit feedback and discussion during subject introduction, and present a summary review of what was discussed. After the first few sessions it was recommended that the nature of the learning center be explained with the emphasis on participation and group autonomy.

594. cPSen(c); cPSen(s)

Ruhe, J. A., & Allen, W. R. Attitude differences and task performance for Black and white recruits in problem-solving groups of differing size and racial composition. Charlotte, N. C.: North Carolina University, 1975. (ERIC Document Reproduction Service No. ED 123 505)

Performances on problem solving tasks in groups of varying size and ethnic composition were studied with a sample of naval recruits. Black and white leaders, Black and white subordinates and group composition (25% Black tetrads; 75% Black tetrads, racially balanced dyads and tetrads) were compared on measures

594. (cont'd)

of self esteem, duration of speech, locus of control, and general satisfaction, and performance on two tasks. In general, white students preferred white leaders, Black students identified best with Black leaders, Black leaders expressed higher aspirations but their expectations of success were lower, and fewer differences in role performance were observed among the leaders.

595. mPS

Rural Futures Development (RFD), Rural Education Program (REP) (Final report). Portland, Ore.: Northwest Regional Educational Laboratory, 1976. (ERIC Document Reproduction Service No. ED 128 134)

Problem solving strategies designed to strengthen problem solving skills of individuals in rural areas and to reinforce problem solving capacities within rural school systems and communities are included in this report.

596. mPS

Ruud, J. B. Adult education for home and family living: The current scene. Adult Leadership, 1973, 22(5), 158-160; 184-185.

Analytic review of categories of home and family life courses designed for adults is presented accompanied by a discussion of

596. (cont'd)

problems of instruction in these areas and recommended solutions.

597. cPSpr(m); cPSpr(a); cPSpr(s); cPSen

Sainty, G. E. Predicting dropouts in adult education classes. Adult Education, 1971, 21, 223-230.

Predictive model, based upon data on mental ability, reading ability, personality, and personal data, was developed for the purpose of identifying potential "dropouts" among enrollees in an adult education program. Dropouts were found to have lower mental and reading ability than "completers" but not to differ on measures of personality. Thirteen variables, mostly from a personal data form, made up a "nonsuccess syndrome," e. g., younger, completed fewer grades in school, repeated more grades, downwardly mobile in social and occupational position.

598. PSap(t); cPSpr; cPSen

Salipante, P., Jr., & Goodman, P. Training, counseling, and retention of the hard-core unemployed. Journal of Applied Psychology, 1976, 61(1), 1-11.

Cross-sectional and longitudinal (18 months) studies of workers from 130 training programs in 114 companies were designed to study the effects of training and counseling on the retention of the hard-core unemployed. Results showed that whether a firm offered training or not had no significant effect on retention; the critical factor was the content of the training, rather than its being offered or not, i. e., job skills train-

598. (cont'd)

ing was positively related to retention, while role playing training had the opposite effect. Long training programs generated distrust about the possibilities of obtaining a real job and generated negative connections from prior schooling; counseling ameliorated somewhat the effects of long training.

599. PSap(p); ePS; mPS

Salyers, W. M. A study exploring the use of Laubach literacy tutoring methods in teaching reading skills to adult mentally retarded clients in a sheltered workshop (Doctoral dissertation, Indiana University, 1975). Dissertation Abstracts International, 1976, 36(9), 5745A. (University Microfilm No. 76-6295)

Reading achievement (as measured by the Word Recognition and Word Comprehension Subtests of Peabody Individual Achievement Test) was investigated in matched individually tutored and untutored groups of 28 mentally retarded adults in a sheltered workshop. There was no significant difference beyond chance in the performance of tutored Ss between pretest and posttest. Two months after tutoring ended, the performance of tutored Ss continued to improve, especially on word comprehension as compared to word recognition. Untutored Ss showed little fluctuation across all three testings. No S achieved functional literacy.

600. PSap(p); PSap(t); cPSpr(a); cPSpr(s)

Sanders, J. C., Sterns, H. L., Smith, M., & Sanders, R. E. Modification of concept identification performance in older adults. Developmental Psychology, 1975, 11(6), 824-829.

Adult Ss, aged 63 to 83 years, participated in a study of the effects of a sequential training procedure combining operant and cumulative learning hierarchy principles on reducing decrement in concept identification performance observed in older adults. Ss worked with four sets of stimulus cards for training, practice, and testing. Results indicated that performance deficits among members of the sample used in this study were largely attributable to experiential factors.

601. PSap(a); cPSpr(s)

Sanders, R. E., Sanders, J. A., Mayers, G. J., & Sielski, K. A. Enhancement of conjunctive concept attainment in older adults. Developmental Psychology, 1976, 12(5), 485-486.

Experiment investigated the effect of specific problem solving strategy training in bidimensional hypothesis testing on the performance of a complex concept identification task by 30 women between 65 and 85 years in three groups: trained, practice, control. Training format included a series of conjunctive problems from simple to complex in the first two sessions, and

601. (cont'd)

only 4-dimensional problems during the third session, with memory aids and strategy hints whenever Ss failed to solve the problem. Practice Ss had a series of 4-dimensional problems with verbal feedback in three sessions. No Ss solved the pretest problem; 9 trained Ss, 3 practice Ss, and no control Ss solved the posttest problem. ANOVA on transformed trials to criterion showed significant main effects due to treatment and test problem, and to their interaction. Keuls comparisons showed posttest performance of trained Ss to be superior to their own pretest performance, and to the posttest performance of practice and control Ss.

602. ePS; mPS

Santopietro, K., & Coy, J. J. (Comps.). Course outline workshops I, II, & III: Paraprofessional training. Greely, Colo.: Consortium of Adult Reading Academies, 1975. (ERIC Document Reproduction Service No. ED 124 886/7/8)

Instructional guide for a program has been designed to teach paraprofessionals how to tutor in an adult literacy program.

603. cPSpr(s); ePS

Sarason, I. G. Test anxiety and cognitive modeling. Journal of Personality and Social Psychology, 1973, 28(1), 58-61.

603. (cont'd)

Investigation of the role of cognitive modelling in reducing anxiety (and increasing performance level) on problem solving tests was studied in an experiment in which 120 undergraduates participated. Ss observed a model who started general principles of solution while completing a problem. Modelling significantly increased performance levels of test anxious Ss.

604. mPS

Saskatchewan NewStart social work aide curriculum (Trainee guide). Prince Albert, Saskatchewan: Saskatchewan NewStart Inc., 1969. (ERIC Document Reproduction Service No. ED 037 611)

Training course for welfare case aides includes work on (1) using welfare case aide skills, (2) relating effectively with clients, (3) working harmoniously with staff members, (4) using potential effectively, and (5) relating to welfare department and to community. Included also are group problem solving techniques and techniques for self-evaluation.

605. PSap(t); cPSpr(s); mPS

Scanland, F. W. *An investigation of the relative effectiveness of two methods of instruction, including computer-assisted instruction, as techniques for changing the parental attitudes of Negro adults*. Tallahassee, Fla.: Florida State

605. (cont'd)

University, 1970. (NTIS No. AD-709 954)

Comparison of the effectiveness of computer-assisted instruction versus small group discussion/lecture for changing attitudes of Negro parents toward the value of education for their children showed that a significantly greater positive attitude change was brought about under the computer-assisted instruction method. Discussion of the use of computer-assisted instruction in ABE is included.

606. cPSpr(a); cPSpr(s)

Scardamalia, M. Mental processing aspects of two formal operational tasks: A developmental investigation of a quantitative neo-Piagetian model. Paper presented at the Annual Meeting of the American Educational Research Association, Chicago, Ill., 1974. (ERIC Document Reproduction Service No. ED 099 415)

Investigation of combinatorial and implicative operations in Piagetian-type tasks in relation to the information processing demands and processing capacities of Ss at three age levels: 8 to 10 and 10 to 12 years, and adult. Ss at all ages showed the same logical strategies, within their developmental limits, on the tasks as well as the same inability to develop strategies or handle tasks when processing demands were beyond those limits.

607. PSap(p); cPSpr; cPSen

Schaie, K. W., & Labouvie-Vief, G. Generational versus ontogenetic components of change in adult cognitive behavior: A fourteen-year cross-sequential study. Developmental Psychology, 1974, 10(3), 305-320.

Reports from two 7-year follow-up studies presented results which do not support the position of a widespread generalized intellectual deficit in the elderly. More sophisticated techniques are needed in the design and analysis of studies of aspects of life span development and for the analysis of environmental and genetic determinants of development.

608. cPSpr(a); cPSpr(s); cPSen(c)

Schaie, K. W., Labouvie, G. V., & Buech, B. U. Generational and cohort-specific differences in adult cognitive functioning: A fourteen-year study of independent samples. Developmental Psychology, 1973, 9(2), 151-166.

The impact of sociocultural change upon age differences in the adult cognitive behavior variables of verbal meaning, space, reasoning, number and word fluency, intellectual ability, educational aptitude, motor-cognitive rigidity, personality-perceptual rigidity, and psychomotor speed was investigated in three cross-sectional studies (1956, 1963, 1970), with a total of 2,151 Ss between 21 and 84 years. Results of comparisons between the three samples confirmed data that significant age de-

608. (cont'd)

crements in cognitive behavior may be an artifact in the failure to control for the effects of sociocultural change. Significant cohort differences were obtained for all dependent variables in cross-sequential analyses. All age effects were significant, however, age was confounded by generational differences. Little change was observed over the 14 year interval for younger Ss, who were only differentiated by mean performance. Older Ss showed dramatic drops from one occasion to the next on almost all the variables. In general, Ss of the same age level achieved higher performance levels from one occasion to the next. Performance differences between Ss of the same age assessed at different occasions were most pronounced in older Ss.

609. cPSpr

Scharles, H. G., Jr. The relationship of selected personality needs to participation, drop-out, and achievement among adult learners (Doctoral dissertation, Florida State University, 1966). Dissertation Abstracts International 1967, 27(11), 3689-3690A. (University Microfilm No. 67-5527)

Identify individual differences in needs (measured by the Edwards Personal Preference Schedule) as **related** to dropout and achievement among a sample of 130 adult students enrolled in an evening high school. Personal needs appeared to influence decision to participate in learning activities as well as the ex-

609. (cont'd)

tent of involvement and degree of achievement. Among the male Ss, dropouts had a higher need for autonomy, lower need for affiliation; among female Ss, dropouts had a higher need for achievement, lower need for abasement. Male high achievers were higher than male low achievers in needs for exhibition and succorance, but lower in needs for achievement, deference, intraception, dominance, and heterosexuality.

610. mPS

Schmidt, S. K. Using pamphlets with disadvantaged adults. Morehead, Ky.: Morehead State University, 1974. (ERIC Document Reproduction Service No. ED 087 393)

Guide to the use of pamphlets with ABE students as alternate means of presenting information is presented as one of a series of services to disadvantaged adults prepared for the Appalachian Adult Education Center's Life Coping Skills materials.

611. PSap(a)

Schulz, R. W. Problem solving behavior and transfer. Harvard Educational Review, 1960, 30, 61-77.

Process approach suggested which has potential for maximizing the likelihood of positive transfer and minimizing the likelihood of negative transfer in problem solving behavior from previous learning. Under this approach, the problem task is viewed

611. (cont'd)

as one of discovering laws which describe functional relations between various kinds of antecedent variables and later problem solving performance, especially as applied to complex life situations.

612. cPSpr(m)

Schwartz, M. M., & Lanyon, R. I. Theories of motivation applied in adult education. Education, 1969, 89(3), 267-271.

Examination of some of the major theories and findings concerning human motivation from the fields of psychology and psychoanalysis and the integration of them into a conceptual framework designed as a classification scheme for the educational motives of adults. Framework generated four classes of motivation: (1) n-achievement/positive striving; (2) n-achievement/need-reduction; (3) need-reduction/affiliation-comfort; and (4) positive striving/affiliation-comfort. Framework was tested by asking adults to make statements on reasons for attending classes; only #3 was not represented in the responses, which was as expected since need-reduction/affiliation-comfort leads to non-educational activities, e. g., social functions.

613. PSap(a); PSap(t)

Seidel, R. J., & Hunter, H. G. The application of theoretical factors in teaching problem-solving by programmed instruction.

613. (cont'd)

International Review of Applied Psychology, 1970, 19(1), 41-81.

Establishment of guidelines for the application of programmed instruction in problem solving courses for adults, which involve learning principles and rules, is discussed.

614. PSap(t); mPS

Seidel, R. J., & Hunter, H. G. The application of theoretical factors in teaching problem solving by programmed instruction. Alexandria, Va.: Human Resources Research Organization, 1968. (ERIC Document Reproduction Service No. ED 094 752)

Study undertaken to devise guidelines for applying programmed instruction to training courses that involve learning of principles and rules for use in problem solving. Programs were tested out with 900 adults against criteria based on actual job problems. Results indicated that giving Ss extensive stimulus support during training kept motivation and performance high during training but hampered transfer. Requiring Ss to write out rules during training hindered them in developing problem solving skills. Applying these rules, but using mnemonics during training, aided Ss in retention of learned material.

615. PSap(a); PSap(t); ePS; mPS

Sepede, J. H. Individualized ABE programs through learning packets. Adult Leadership, 1972, 20(8), 289-290.

Learning packets are self-contained sets of teaching-learning materials designed to teach a single (carefully delineated, narrow) concept and to guide the learner through various independent study materials while bringing many approaches to bear on a single topic in a coordinated learning experience for the purpose of facilitating transfer. Each packet is to be completed in two to three weeks. Learning packets contain the following: (1) idea or major concept to be taught or learned plus subconcepts; (2) instructional or behavioral objectives, in terms of changes in behavior of adult student; (3) pretest; (4) diversified content that implements material to be learned, sequential learning activities; (5) diversified methodology to motivate the learner and present the lesson; (6) independent study projects to facilitate learning and transfer.

616. PSap(a); PSap(t); cPSen(s)

Shelly, M. W., & Stedry, A. C. Toward the design of a group: A preliminary model. Psychological Reports, 1968, 22(3), 1177-1189.

A systematic approach concerned with the design and interaction of small discussion groups was proposed. Evaluation criteria for group performance concerned who talks and about what, rather

616. (cont'd)

than the total amount of talking taking place. Conclusions reached were that the individual who makes no comments and is not interested should form a separate group with another individual with whom he shares some common interest, and that there is an increased likelihood in large groups that there will be some shared interests, although the probability of a universally shared interest goes down. Recommendations for future research included distinguishing among questions, answers, and unsolicited statements of fact and opinion, accounting for other factors such as fatigue and charisma, and discriminating between interest and information sets.

617. PSap(p); cPSpr; cPSen

Showman, B. T. Meeting farmers specific needs. Agricultural Education Magazine, 1973, 46(4), 91.

A personalized training program to train the farmer in record analysis, and to use certain facts to solve specific problems and make decisions, rather than just to disseminate information, was proposed. Program development called for the program to be built around the known needs of the farmer, the discussion of problems to be carried through to a decision or solution, the farmer not the instructor to make the decision, and an on-farm follow-up session to make the final decision. Advantages to this type of program are more personal satisfaction and trained

617. (cont'd)

farmers who will be better able to work alone while the instructor begins with another group.

618. cPSpr(s)

Siegel, A. W., & Stevenson, H. W. Incidental learning: A developmental study. Child Development, 1966, 37(4), 811-817.

Study of the relationship between age and incidental learning, with a sample age 7 years through adult, found that adult Ss performed at a higher level than the younger Ss on the incidental learning task.

619. PSap(a); cPSpr(a); cPSpr(s)

Simon, A., & Ward, L. O. The performance on the Watson-Glaser Critical Thinking Appraisal of university students classified according to sex, type of course pursued, and personality score category. Educational and Psychological Measurement. 1974, 34(4), 957-960.

Study of the relationship between performances on the Watson-Glaser critical thinking measure and extraversion/introversion was completed with a random sample of M and F undergraduates selected from liberal arts and from science curricula. No relationship was found between extraversion/introversion and critical thinking; M Ss were significantly higher than F Ss in

619. (cont'd)

critical thinking performance; "inference," in critical thinking, differentiated science students.

620. PSap(a); PSap(p); cPSpr(a); cPSpr(s)

Sinnott, J. D. Adult performance on some Piagetian tasks (Doctoral dissertation, Catholic University, 1975). Dissertation Abstracts International, 1976, 36(7), 3585B. (University Microfilm No. 76-1180)

621. PSap(a); PSap(p); cPSpr(a); cPSpr(s)

Sinnott, J. D. Everyday thinking and Piagetian operativity in adults. Human Development, 1975, 18(6), 430-443.

Investigation of the effect of the content of a Piagetian task on the cognitive performance, at the level of formal operations, of adult Ss in two age groups: 30 to 38 years and 56 to 82 years, indicated that in all instances (for reasoning and role taking tasks) older Ss performed less well than younger Ss. Further, at both age levels, formal operation was affected significantly by level of education, and performance on familiar tasks was higher than performance on unfamiliar. Question raised as to the appropriateness of some Piagetian tasks for an older population. Relation of findings to crystallized intelligence (Fc) was discussed.

622. cPSpr(m); cPSpr(a); cPSen

Sjogren, D. D. , Knox, A. B., & Grotelueschen, A. Adult learn-

622. (cont'd)

ing in relation to prior adult education participation. Adult Education, 1968, 19(1), 3-10.

The effect of recency of participation in a programmed learning activity on the performance of a current programmed learning activity was studied in 208 Ss, 19 to 67 years, stratified by age, SES, sex, and prior participation in adult education. In general, recency of prior educational experience positively affected current learning. It was suggested that remedial programs in background information and study skills be provided for adults who haven't recently participated in educational activities, in order to increase learning performance.

623. PSap(t); cPSpr(a); cPSpr(s)

Skiba, D. T. Interactive effects of adjunct questions, field orientation, and intelligence on the learning of audio taped material by adult learners (Doctoral dissertation, Wayne State University, 1975). Dissertation Abstracts International, 1976, 36(11), 7371A. (University Microfilm No. 76-11,001)

Exploration of the interaction of mental ability and field orientation with performances on problems presented either in written or audio taped form, including questions either as cueing aids, review aids, or not at all, was completed with 52 undergraduate Ss. Significant relationships were found between field

623. (cont'd)

orientation and mental ability factors, field orientation and retention, and mental ability and retention. Question placement was related to field orientation.

624. cPSpr(a); cPSpr(s)

Smedslund, J. The concept of correlation in adults. *Scandinavian Journal of Psychology*, 1963, *4*, 165-173.

Exploration of the hypothesis that all adults have not necessarily reached the formal operations stage through observing the performances of student nurses in three experiments designed to test whether adults, with no training in statistics, had a concept of correlation. Ss' exhibited individual patterns of response on experimental tasks but the main finding from the series of experiments was that adult Ss, with no training in statistics, do not appear to have a cognitive structure isomorphic with the concept of correlation.

625. PSap(t); ePS; mPS

Smith, E., Martin, McK. C., & Ulmer, C. *Guide to curricula for disadvantaged adult programs*. Englewood Cliffs, N. J.: Prentice-Hall, 1972.

Development, selection, and implementation of curricula for ABE programs are considered as well as techniques for instruction and for evaluation of students.

626. mPS

Smith, E. H. What the adult basic education student should learn while learning to read. Adult Leadership, 1973, 21(7), 227-228.

Content relevant materials should be used in programs developed to assist ABE students in the development of basic and social skills. Programs must have practical application based on ABE student's needs.

627. PSap(k); cPSpr; cPSen

Smith, E. J. W. An analysis of adult performance level study general knowledge area scores by selected demographic variables (Doctoral dissertation, Auburn University, 1975). Dissertation Abstracts International, 1975, 36(2), 666A. (University Microfilm No. 75-18,036)

Analysis, by demographic variables (age, sex, ethnic group membership, level of education, and size of community of residence), of responses to an APL knowledge test by adult students in APL programs, when test items were keyed to basic knowledge areas: consumer economics, government and law, community resources, transportation, and occupational knowledge. Overall, F Ss, Ss over 20 years of age, Ss with a 12th-grade education or an equivalency diploma, and Ss in the white ethnic group had higher scores.

628. cPSpr; cPSen; ePS

Smith, F. J., et al. Turnover factors as assessed by the exit interview. Journal of Applied Psychology, 1953, 37, 352-355.

Structured interview schedule and content analysis scheme allowed the exit interview to be used as a source of data related to employee turnover. Three factor patterns appeared: (1) human relations pattern, (2) security pattern, and (3) upgrade pattern, as the bases for turnover.

629. cPSpr(m); cPSpr(s); cPSen

Smith, J. L. Motivating the illiterate adult. Adult Leadership, 1975, 23(11), 342-344.

Discussion of (1) social-cultural factors and (2) interests and needs which are apparent motivators basic to an adult's decision to seek literacy education. Methods, techniques, and materials to encourage adult participation in educational activities are presented.

630. ePS

Smith, R. M. Toward measurement of human problem solving in simulations. New York, N. Y.: Speech Communication Association, 1973. (ERIC Document Reproduction Service No. ED 084 572)

Description of a technique designed to facilitate the use of simulations in evaluating skill in problem solving **is presented.**

631. mPS

Snider, J. C. "Microville II:" A simulation-gaming device designed to instruct community leaders in the development of programs on a community-wide basis. Ft. Collins, Colo.: Colorado State College, 1973. (ERIC Document Reproduction Service No. ED 086 800)

Simulation-gaming device designed as a model for securing changes in management behavior of community leaders and in their interpersonal perceptions of their roles as change agents, facilitators, coordinators, and energizers. Instructional model made up of five key components: theoretical base, needs and wants, objectives, implementation, and evaluation.

632. PSap(t); cPSpr(a); mPS

Sollie, J. H. Teaching reading to functionally illiterate prison inmates, using the initial teaching alphabet (Doctoral dissertation, University of Alabama, 1966). Dissertation Abstracts International, 1966, 27(5), 1645B. (University Microfilm No. 66-11,397)

Explored the effectiveness of using the initial teaching alphabet (i/t/a) to teach reading to functionally illiterate adults using a volunteer group of M and F prison inmates, average age 40 years. The "Early-to-Read" i/t/a program proved a suitable instructional medium for the population in this study.

633. cPSpr(a)

Sorenson, H. Adult abilities. St. Paul, Minn.: University of
Minnesota Press, 1938.

Abilities that are used throughout the adult experience tend to increase with age, while abilities required by many situations which do not come within the scope of adult experience tend to show a definite decline. Adult education experiences should be diversified; it is the nature of adults to become routinized within small areas.

634. mPS

Spangenberg, R. W. Selecting methods and media to achieve
training objectives. Fort Knox, Ky.: Human Resources Research Organization, 1971. (ERIC Document Reproduction
Service No. ED 121 263)

Manual designed to illustrate how specific learning principles are associated with groups of learner performances. Training goals include problem solving.

635. PSap(k); cPSpr(a); cPSpr(s)

Spitze, H. T. The relation of knowledge and use of consumer
credit. Adult Education, 1963, 13(3), 158-161.

Survey study, using responses from F Ss, found that attitude, rather than knowledge or problem solving skills, influences the decision to use credit and the means of obtaining credit.

636. PSap(t); ePS

Stein, R. G. Methods of adult general education: A study of faculty and adult student perceptions using the semantic differential (Doctoral dissertation, University of Utah, 1975). Dissertation Abstracts International, 1976, 36(3), 1245A. (University Microfilm No. 75-20,274)

Data was gathered concerning the perceptual differences between faculty and adult students about non-traditional methods of adult education with Osgood's Semantic Differential. In general, both students and faculty preferred general education programs designed equally by the students and the college. The over 50 age group of faculty and students, faculty from the Schools of Business and Art, and tenured faculty showed an equal preference for programs designed equally by students and college, and for programs designed 25% by the students and 75% by the college. Osgood's instrument was considered effective in comparing faculty and adult student attitudes toward a non-traditional approach to education.

637. PSap(a); cPSpr(a); ePS

Stephenson, D. J. Achievement motivation as a factor related to problem solving effectiveness. Journal of Industrial Teacher Education, 1971, 8(2), 32-39.

Examination of the relationship of achievement motivation (McClelland's n-achievement) to effectiveness in diagnostic pro-

637. (cont'd)

blem solving performance was observed in a sample of undergraduates enrolled in a basic auto mechanics course. High achievement motivation was a good predictor of diagnostic problem solving performance and diagnostic problem solving knowledge. Ss with high scholastic aptitude were better at problem solving effectiveness.

638. cPSpr; cPSen; mPS

Steuart, R. C. An evaluation of the educational effectiveness of selected ABE materials. Madison, Wis.: Wisconsin State Board of Vocational, Technical and Adult Education, 1968. (ERIC Document Reproduction Service No. ED 042 108)

Report on the evaluation of two ABE programs: the Mott Basic Language Skills Program and the Sullivan "Programmed Reading for Adults," includes data on the relationship between personal characteristics and environmental factors related to adult learning.

639. mPS

Stevens, N. G. Adult, continuing, and in-service education and the library in higher education: A bibliographic check list. Kutztown, Pa.: Kutztown State College, 1973. (ERIC Document Reproduction Service No. ED 095 860)

639. (cont'd)

Citations of background readings, bibliographies, directories, handbooks, periodical articles, reference works, and ERIC entries which relate to adult education, are included.

640. cPSpr; cPSen

Sticht, T. G. Learning abilities of disadvantaged adults. (HumRRO Tech. Report 9-69) Alexandria, Va.: Human Resources Research Organization, 1969. (NTIS No. AD-688 811)

Summary and analysis of the literature related to learning abilities in disadvantaged adults indicated no available evidence to show they have less ability to learn than other adults. Little research has been completed on learning and disadvantaged adults.

641. PSap(a); PSap(t)

Stolurow, L. M. Psychological and educational factors in transfer of training. Phase I. Urbana, Ill.: Illinois University, Bureau of Educational Research, 1963. (ERIC Document Reproduction Service No. ED 012 818)

Study of three kinds of transfer effects: cue repetition, learning-to-learn, and warm-up, under conditions of programmed self-instruction using teaching machines, in which a sample of 240 undergraduates participated.

642. PSap(a); PSap(t)

Stratton, R. P., et al. Transfer of judgment training to production and judgment of solutions on a verbal problem. Journal of Educational Psychology, 1970, 61(1), 16-23.

Two experiments, designed to explore the effects of judgment training on the quality of problem solution and on the transfer of problem solution strategies, were completed with samples of undergraduate students. Data from the single-solution and multiple-solution experiments indicated that judgment training improved judgment accuracy providing cues which increased solution quality on transfer tasks.

643. PSap(a); PSap(t); mPS

Streufert, S., Klinger, S. C., & Castore, C. H. Tactical and negotiations game for analysis of decision integration across decision areas. Psychological Reports, 1967, 20(1), 155-157.

Description of a strategic perception/decision making game, and the constructs underlying its development, designed to include components measuring integration, decision frequency, information search.

644. PSap(t); cPSpr(m); cPSpr(a); cPSpr(s)

Strozak, V. S. The effects of directive and non-directive problem-solving on attitudes and achievement of students in a developmental science course. New York, N. Y.: New York Uni-

644. (cont'd)
versity, 1972. (ERIC Document Reproduction Service No. ED 086 458)

Comparison of the use of a directive problem solving (teacher centered) approach with the use of a nondirective problem solving (student centered) approach in a community college remedial science course for freshmen. Students in the nondirective method course showed significantly greater achievement than those in the directive. No change in attitude was observed in either method group. However, achievement level and attitude were positively correlated.

645. PSmo; cPSpr; cPSen
Stubblefield, H. W. Installing the participation training system: Common problems. Viewpoints, 1975, 51(4), 59-66.

Participation training (PT) is a highly structured form of human relations training which incorporates a value system within a technology for the purpose of helping adults learn how to learn: a group centered, collaborative-developmental approach to adult learning. Problems arise in implementing the PT design when participants have difficulty mastering the educational and interpersonal skills and in accepting the attitudinal set requisite to PT function.

646. PSap(t); mPS

Suchman, J. R., et al. The development of an open-access, performance oriented curriculum for training the military policeman. Alexandria, Va.: Human Resources Research Organization, 1975. (ERIC Document Reproduction Service No. ED 110 795)

Training course based on the construct, "Open Access Curriculum," is presented. "Open Access Curriculum" is an individual self-paced model for learning that allows for the use of a wide range of learning media and other resources in the same learning system without any alteration in the basic course structure. The instructor selects the learning resources to be used by individual students;individual student makes use of resources in his own way.

647. PSmo; PSap(k); PSap(t); mPS

Suchman, J. R., & DiSario, M. R. An instructional system for consumer decision-making. Carmel, Calif.: Human Resources Research Organization, 1970. (ERIC Document Reproduction Service No. ED 123 359)

Instructional system for assisting ABE students develop competencies needed to make consumer decisions. A guide is included for the development of decision making problems for ABE students; illustrated by a unit example, "Buying a Used Car."

648. PSap(t); cPSpr(s)

Sulkin, H. A. Effects of participant personality in management training methods. Adult Education, 1972, 22(4), 251-266.

Study designed to determine whether the effectiveness of certain teaching methods (case discussion and lecture) in increasing knowledge and producing attitude change in adult students was related to student personality characteristics, i. e., degree of extraversion and degree of neuroticism. 117 adult M Ss, average age in early-40's, with at least a high school level education, participated in the study. No significant relationships were found among teaching methods and personality characteristics. Extraversion was found to be inversely related to neuroticism.

649. mPS

Summary of the national Indian education library. St. Paul, Minn.: National Indian Education Association, 1972. (ERIC Document Reproduction Service No. ED 066 194)

Description of the NIEA Library Project which has been designed to serve the needs of the Indian people, including the basic educational needs. Three models for implementing the Project, to be selected depending upon site characteristics, are included.

650. PSap(t); cPSpr(m); cPSpr(a); cPSpr(s)

Sutter, E. G., & Reid, J. B. Learner variables and interpersonal conditions in computer-assisted instruction. Journal of Educational Psychology, 1969, 60(3), 153-157.

Study of student achievement and attitude within the interactions between selected personality traits (i. e., specific and test anxiety, sociability, and dominance) and the interpersonal (work with partner)/noninterpersonal (work alone) nature of the learning situation was completed with a sample of undergraduate male Ss. Learning in the noninterpersonal situation was just as efficient as learning in the interpersonal situation except when learner characteristics were considered; high test anxious and low sociability Ss worked best in the noninterpersonal situation. Submissive Ss worked best with dominant Ss while dominant Ss worked best alone when attitude change was considered; differences between dominant and submissive Ss were not significant when achievement was considered.

651. cPSpr; cPSen

Sweet, G. A. Social schemas: An investigation of cognitive, perceptual, and developmental variables (Doctoral dissertation, Rhode Island University, 1974). Dissertation Abstracts International, 1974, 35(5), 2450-2451B. (University Microfilm No. 74-24,700)

651. (cont'd)

Investigation of the influences of cognitive, perceptual, and developmental variables on the normal functioning of social schema, i. e., sets of meanings about human relationships learned through social experience which mediate social behavior, or individual's internalization of culturally acceptable ways of organizing and responding to social stimuli, or projections of past experience with sex roles and/or behavioral expressions of psychosocial needs and habits, was carried out with samples of children, adolescents, and young adults. For all Ss. schemas appeared to function as social response sets. Age differences were more apparent than sex differences, although more F Ss than M appeared to use the second schema, i. e., internalization of cultural conventions.

652. PSap(a); PSap(t)

Swinth, R. L. Definitional versus conceptual learning. Lawrence, Kan.: University of Kansas, 1970. (ERIC Document Reproduction Service No. ED 041 349)

Examination of the hypothesis that definitions are learned best through an associative process and inferences are learned best through a process of unified understanding was carried out with 24 pairs of Ss, matched for sex and aptitude, using a programmed text and a conventional text. A significant interaction between sex and material used was found for both definitions and

652. (cont'd)

inferences; M Ss performed better with the conventional text, F Ss with the programmed text.

653. PSap(a); PSap(t); cPSpr(a); cPSpr(s)

Tate, M. W., et al. Differences between good and poor problem solvers. Philadelphia, Pa.: Pennsylvania University, School of Education, 1959. (ERIC Document Reproduction Service No. ED 002 849)

Study of the differences between good and poor problem solvers among junior high school students indicated that as the problem tasks became more complex or the problem limits more constrained the gap in performing ability between the two groups of Ss increased significantly in favor of the good problem solvers. Complex abilities of problem recognition and judgment appeared to be independent of a scholastic aptitude and reading skills. (Ed.: Completed with a non-adult sample but of relevance in developing studies of adult problem solving.)

654. PSap(t); cPSpr(s); ePS

Taylor, S. S. A study of the effects of microtraining for attending behaviors in adult testing (Doctoral dissertation, Florida State University, 1973). Dissertation Abstracts International, 1974, 34(10), 6343-6344A. (University Microfilm No. 74-8415)

Investigation of whether training in behavioral attending skills would reduce test taking anxiety in adults was completed with a sample of ABE teachers. Comparison of performances between an Ex (trained) and a C group immediately following and two months after training showed no differences between the two in level of

654. (cont'd)

test anxiety.

655. mPS

Thaler, S. M. Adult basic science (Doctoral dissertation, Union Graduate School, 1975). Dissertation Abstracts International, 1976, 36(10), 6584A. (University Microfilm No. 76-8257)

Course in basic science for GED students was developed, pilot tested, and implemented.

656. ePS; mPS

The BLADE program basic literacy for adult development. Instructor's manual (Rev.). Prince Albert, Saskatchewan: Training Research and Development Station, 1973. (ERIC Document Reproduction Service No. ED 078 268)

BLADE (Basic Literacy for Adult Development) is a comprehensive ABE program. Theoretical base, program objectives, program contents and structure, and a detailed framework for the implementation of the program are included in this guide.

657. PSmo; mPS

The dynamics of Life Skills coaching. Prince Albert, Saskatchewan: Saskatchewan NewStart, Inc., 1973. (ERIC Document Reproduction Service No. ED 083 062)

Reference manual developed to accompany the Life Skills course

657. (cont'd)

materials. Life Skills, a course based on adult training and counseling methods, has been designed to assist adults in development of problem solving behaviors in the management of everyday tasks.

658. cPSen(c); cPSen(e); cPSen(s)

The evaluation of Project ENABLE. Cambridge, Mass.: Simulmatics Corp., 1967. (ERIC Document Reproduction Service No. ED 023 008)

Brief description of the aim and structure of the "family life education groups," discussion groups designed for low income parents. Report on the evaluation of the program, based on data from 11,600 personal parent-interviews and 6,200 records of group attendance and services, indicated significant changes in attitude, information about resources, and use of resources, in 55 out of 99 item categories.

659. mPS

The interrelating of library and basic education service for disadvantaged adults: A demonstration of four alternative working models. Morehead, Ky.: Morehead State University, 1973. (ERIC Document Reproduction Service No. ED 100 985)

660. mPS

The interrelating of library and basic education services for disadvantaged adults: A demonstration of four alternative working models. Morehead, Ky.: Morehead State University, 1973. (ERIC Document Reproduction Service No. ED 098 986)

Materials developed to illustrate ways of using library services and materials in adult basic education and to describe a system for coordinating ABE program activities and library services.

661. PSap(t); mPS

The RFD Project: A summary report of the development, field testing, and evaluation of a multi-media program in continuing education for adults (Third & final annual report). Madison, Wis.: University of Wisconsin, 1972. (ERIC Document Reproduction Service No. ED 102 429)

Description and evaluation of a delivery system model designed to provide basic education services in rural areas. Model makes wide use of media.

662. PSap(t); mPS

Thompson, P. G. An investigation of the instructional effects of interactive and non-interactive videotaped instruction on adult learners (Doctoral dissertation, Catholic University, 1975). Dissertation Abstracts International, 1975,

662. (cont'd)

36(3), 1404A. (University Microfilm No. 75-19,523)

Assessment of the effect of interactive videotaped instruction, i. e., learner/media interaction providing response-contingent feedback, controlled for two conditions: (1) response mode--overt or covert, and (2) feedback mode--all responses or correct response only. Performances of adult (18+ years) federal government employees showed no differences among the feedback and response modes.

663. PSap(t); cPSpr; cPSen; mPS

360 Degrees Project: National career education television project (Final report of 1972-1973). Madison, Wis.: University of Wisconsin, 1972. (ERIC Document Reproduction Service No. ED 102 430)

Report on a project designed to provide, through a coordinated mass media system on a multi-state basis, information and "motivators" that would enable less educated adults make informed choices about their life careers. Materials reflected practical problems related to occupational preparation and training as well as life styles of prospective audience of adult students.

664. cPSpr(s); ePS

Tiffin, J., et al. Use of the Kuder Preference Record to pre-

664. (cont'd)

dict turnover in an industrial plant. Personnel Psychology, 1953, 6, 195-204.

Development and validation of a tenure scale, based upon performances on the Kuder Preference Record (Vocational Form C-H), that discriminated between long and short tenure factory workers at a metal parts factory, is described.

665. mPS

Tippett, G. Learning Individualized for Canadians (LINC): Mathematics. Prince Albert, Saskatchewan: Saskatchewan NewStart, Inc., 1972. (ERIC Document Reproduction Service No. ED 069 476)

Manual for a course designed for use in ABE focuses on individually prescribed learning with emphasis on developing computational and problem solving skills and on practical applications of mathematics to everyday life.

666. ePS

Tocci, R. J. Realistic testing and evaluation methods in technical courses. Technical Education News, 1971, 30(1), 13-15.

"Problem Session" technique is suggested as a replacement for traditional standardized testing and evaluation procedures to be used in assessing achievement and ability.

667. cPSpr(m); cPSpr(s)

Tomasini, J. Effect of peer-induced anxiety on a problem-solving task. Psychological Reports, 1973, 33(2), 355-358.

Examination of the effects of anxiety (as measured on the IPAT Anxiety Scale Questionnaire) on performance of problem solving tasks under two conditions: Ss (M and F undergraduates) working alone or together. Results showed that F Ss, irrespective of anxiety level, appeared to have little motivation when working alone; performance improved with another individual.

668. PSap(a); PSap(t); cPSpr(a)

Tomlinson-Keasey, C. Formal operations in females from eleven to fifty-four years of age. Developmental Psychology, 1972, 6(2), 364.

Experiment, using a cross-sectional sample of F Ss at three age levels (12, 20, and 54 years), was designed to obtain data on cognitive development and to explore variables which might facilitate acquisition of formal operations skills. Piagetian tasks (pendulum, balance, and flexibility problems) selected for pretest, posttest, and training. Training was characterized by four principles: tailored to individual S; S actively involved; S placed in conflict; and tasks from conceptually simple to more complex. Results showed consistent and reliable differences in

668. (cont'd)

stage of conceptual development across the three age groups. Training procedures were effective for training tasks but little transfer occurred. Attainment of formal operations was rare; depended upon (1) available structures, (2) experiences, (3) use, and (4) preference.

669. PSap(t); cPSen

Toogood, J. L. An analysis of the compatibility of career education and public school district adult education programs in California (Doctoral dissertation, University of California at Los Angeles, 1975). Dissertation Abstracts International, 1976, 36(11), 7133A. (University Microfilm No. 76-11,536)

Study of the integration of career education into adult education programs indicated that career education had been broadened from "occupational preparation" to include also basic and personal skills, family life education, and strategies for coping with social situations.

670. PSmo; PSap(a); PSap(t)

Treffinger, D. J., & Huber, J. R. Designing instruction in creative problem-solving: Preliminary objectives and learning hierarchies. Journal of Creative Behavior, 1975, 9(4), 260-266.

Learning hierarchy is a diagram of the organization of the skills

670. (cont'd)

and prerequisite accomplishments involved in a more complex learning outcome; a hierarchy is developed by exploring prior skills and outcomes which must be reached before a more complex objective can be attained. Goal statements for creative (divergent) problem solving, a complex skill which involves learned hierarchies of behaviors, are the ability to (1) be sensitive to problems; (2) define problems; (3) break away from habit-bound thinking; (4) defer judgment; (5) see new relationships; (6) evaluate consequences of actions; (7) plan for implementation of ideas; (8) observe carefully and discover facts; (9) use effective techniques for discovering new ideas; (10) refine strange ideas into useful ones; (11) describe and use a systematic approach to problem solving, i. e., fact finding, problem finding, idea finding, solution finding, and acceptance finding; (12) describe the influence of interpersonal relationships on problem solving, where appropriate.

671. PSap(k); PSap(t); mPS

Troutman, A. P., & Lichtenberg, B. P. Problem solving in the general mathematics classroom. Mathematics Teacher, 1974, 67(7), 590-597.

Problem solving is the "ability to interpret, evaluate, and generalize from data within some logical framework." Problem

671. (cont'd)

solving activities designed to assist students in the development of problem solving skills which, specially relate to general math., are: (1) finding characteristics of objects or math. ideas; (2) translating math. communication into different forms; (3) finding similarities and differences; (4) determining sufficient, necessary, and equivalent conditions; (5) making generalizations based on observations of specific evidence; (6) determining alternate strategies; and (7) approximating.

672. PSap(a); PSap(t); cPSpr; cPSen; ePS; mPS

Ulmer, C. Teaching the disadvantaged adult. Washington, D. C.: National Association for Public Continuing & Adult Education, 1970.

Brief but cogent and complete guidelines for the development and implementation of programs and materials for ABE students based upon the general characteristics of the ABE student and upon the unique characteristics of the way in which he learns. Practical suggestions for evaluation and techniques for facilitating learning for the ABE student are included.

673. PSap(t); mPS

VanDruff, J. C. Learning labs in adult education. Adult Leadership, 1974, 23(2), 72-73.

Learning labs. provide for the adult learner a self-paced, self-contained learning environment where learning is individualized and where enrollment is open; a flexible and non-threating climate within which adults can learn.

674. PSmo; cPSpr(s)

Van Orman, W. R. No-fault problem solving. Gerontologist, 1975, 15(5), 464.

Problem solving approach is one characterized by (1) discussion of facts, (2) generation of solutions, (3) selection of course of action, and (4) actual action to solve problem. Problem solving is not done optimally when driven by affect.

675. PSap(t); cPSpr(m); mPS

Van Phelan, L., Harper, E., & Hathaway, W. R. Accelerating able adults through programmed instruction. Adult Education, 1965, 15(3), 164-166.

Investigation of the effectiveness of the use of programmed instruction in accelerated high school subject classes for adults based on the performance of a sample of students, 18 to 56 years, with a 9th to 12th-grade reading level. Results indicated that effective programmed instruction was correlated with a high level of motivation on the part of the learner.

676. PSmo; PSap(a); PSap(t); cPSpr; cPSen

Vaughter, R. M. A developmental investigation of oddity concept formation in children. DeKalb, Ill.: Northern Illinois University, 1972. (ERIC Document Reproduction Service No. ED 061 559)

Set of experiments investigating the difficulty of the utilization of two problem solving response strategies, matching and oddity, used Ss in four age groups, 5 years to adult. Data indicated that effective problem solving behavior involved development and utilization of concepts and problem solving strategies which can have wide applicability in problem solving situations. Findings suggested also that educational experiences should be matched to age, sex, and socioeconomic backgrounds of learners. A model of matching and oddity problem solving was presented: (1) problem solving involves the use of appropriate response strategies; (2) hierarchy of response strategies develops and the dominance of the hierarchy remains relatively constant across age once established; (3) consistent matching responding involves suppression of the dominant oddity strategy; and (4) mediation of inhibitory responses of more dominant responses takes time.

677. cPSpr(m)

Verner, C., & Neylan, M. S. Patterns of attendance in adult night school courses. Vancouver, B. C.: University of

677. (cont'd)

British Columbia, 1966. (ERIC Document Reproduction Service No. ED 011 623)

Data from records of 5,240 adult registrants in 266 courses indicated that course content had a direct relationship to motivation; courses best attended were those from which immediate benefit was gained. Equivalency courses for adults need to be designed specifically for them rather than being duplicates of those in pre-adult programs.

678. cPSpr; cPSen

Verner, C., & White, T. (Eds.). Adult learning. Washington, D. C.: Adult Education Association, 1965.

Includes chapters by I. Lorge and G. Jensen which focus on adult learning and guidelines for adult instruction. Adult learner brings to the learning situation his ability plus a tremendous range of stored learnings, i. e., knowledge and attitudes. Adult learning situations should be planned so that the learner gets a sense of mastery and success and is able to use past experiences to do this. Planning for adult learning should take into account not only principles concerning the guidance of problem solving and task interactions but also principles concerning decision making and social influence interactions and principles pertaining to general socio-psychological conditions for effective learning.

679. cPSpr; cPSen

Verner, C., & Davis, G. S., Jr. Completions and dropouts: A review of research. Adult Education, 1964, 14(3), 157-176.

Review of the literature on adult student dropout yielded data summarized under (1) personal factors: socio-economic and psycho-social, and (2) situational factors: non-institutional and institutional, in varying relationships to student completion of educational programs. Data are basic to designing ABE programs.

680. ePS; mPS

Videotape playback in programs of human and social development. Prince Albert, Saskatchewan: Saskatchewan NewStart, Inc., 1970. (ERIC Document Reproduction Service No. ED 050 344)

Manual for the use of videotape as an instructional aid in adult learning programs describes seven functions which video playback can provide: (1) information giving, (2) personality development, (3) learning social skills, (4) learning job skills, (5) community development, (6) evaluating projects, and (7) supervision.

377e. mPS

Vincent, G., & Iverson, M. J. Profitable hog production. An instructional unit for teachers of adult vocational education

377e. (cont'd)

in agriculture. Lexington, Ky.: Kentucky University, Division of Vocational Education, 1973. (ERIC Document Reproduction Service No. ED 112 256)

See entry #377: Kentucky University, Division of Vocational Education.

681. cPSpr

Vitro, F. T. Implications of self-concept theory for education of the "total adult." Adult Leadership, 1971, 20(2), 45-46.

Student enters ABE program with self-perception which may be good or poor depending upon previous experiences and environmental influences. Subsequent successes and failures in personal, social, and academic situations affect this self-perception either positively or negatively. ABE program must be planned from a consideration of all facets of the learner including self-concept and other personality traits. Individual must first perceive self as "adequate person" before he can perceive self as "adequate student."

682. cPSpr(m); cPSpr(a); cPSpr(s); cPSen

Wadsworth, E. L. The relation of met and unmet expectations to subsequent performance by trainees in the Job Corps YWCA extension residence program (Doctoral dissertation, New York University, 1974). Dissertation Abstracts International, 1974, 35(2), 899-900A. (University Microfilm No. 74-17,165)

Investigation of the degree of congruence between Ss' (154 Corpswomen, 16 to 22 years) expectations about Job Corps program work experience when related to their performance in the program and employment after the program as compared to a group of "in residence" Corpswomen and to staff expectations, was reported. In general, Ss' performance levels were congruent with their expectations; age and education were related to expectations. Ss tended to adapt expectations to those of the program. After program employment corresponded to performance congruence of Ss.

683. cPSpr(m); cPSpr(s); cPSen(s)

Wahrer, R. L. A study of educational responses by adults to critical periods (Doctoral dissertation, University of Iowa, 1975). Dissertation Abstracts International, 1976, 36(12), 7815A. (University Microfilm No. 76-13,456,

Investigation, using a structured interview to gather data, of the interactions of the occurrence of critical episodes, i. e., seven categories of events and experiences having a marked effect

683. (cont'd)

upon individual's relationships or social roles, with an adult's decision to enter a learning program, was described. Data indicated that Ss tended not to enter a learning program in response to a critical episode.

684. PSap(t); mPS

Warren, K. L. The Kentucky educational television GED project. A case study (Doctoral dissertation, University of Oregon, 1975). Dissertation Abstracts International, 1976, 36(9), 5639A. (University Microfilm No. 76-5224)

Study of the effectiveness of a television instructional project for disadvantaged adults was designed to determine whether a curriculum and set of guidelines for a GED television series were effective. Series of instructional programs developed based on a 7-step instructional system: (1) determination of objectives, (2) identification of content, (3) selection of instructional strategy, (4) production of programs and study guides, (5) validation, (6) promotion and utilization, and (7) evaluation. Of the 61 adult Ss who participated, 88.3% passed the GED exam. Difficulties were experienced with quality of television reception, student retention, and inadequate follow-up assistance to program participants.

685. cPSpr

Warren, P. W., et al. A Life Skills course: A preliminary re-

685. (cont'd)

port of its effects on personality and attitude measures. Saskatchewan Journal of Educational Research and Development, 1972, 2(2), 56-65.

Life Skills are problem solving behaviors appropriately and responsibly used in the management of personal affairs. Study of the relationships observed among performance on Life Skills course tasks and assessment of adult student self-concept and interpersonal competence skills is presented. Failure factors related to performance on course tasks are identified.

686. mPS

Warren, P. W. The problems and needed Life Skills of adolescents. Prince Albert, Saskatchewan: Saskatchewan NewStart, Inc., 1972. (ERIC Document Reproduction Service No. ED 072 183)

Modifications needed in Life Skills course to make it applicable to adolescents are detailed in this guide.

687. PSap(t); cPSpr; cPSen; ePS, mPS

Warren, V. B. (Ed.). The second treasury of techniques for teaching adults. Washington, D. C.: National Association for Public Continuing and Adult Education, 1970.

688. PSap(t); cPSpr; cPSen, ePS; mPS

Warren, V. B. (Ed.) A treasury of techniques for teaching adults.

688. (cont'd)

Washington, D. C.: National Association for Public Continuing and Adult Education, 1964.

Techniques for use with disadvantaged adults described, e. g., programmed instruction, peer teaching, individualized instruction with low cost or free materials. Educational technology, counseling, listening, and testing and evaluation discussed as they apply to the disadvantaged adult learner.

689. PSap(k); PSap(t); cPSpr; cPSen

Watson, E. R. Interpersonal changes through immediate feedback approaches. Adult Education, 1969, 19(4), 251-267.

Selected programmed materials and human relations training systems designed for learning experiences for adult education programs whose objective is to improve the quality of interpersonal behavior are reviewed. Research related to the materials and systems is discussed and learner behavior changes are noted.

271j. mPS

Weiner, R. The newspaper: A source of high interest instructional material for adults. Instructional concept guide no. 10. Athens, Ga.: Georgia University, Regional Adult Literacy Service Unit, 1975. (ERIC Document Reproduction Service No. ED 120 361)

See entry #271: Georgia University, Tutor Support Library.

271k. mPS

Weiner, R., & Carter, S. Sample instructional units of life-coping skills: A functional content unit. Athens, Ga.: Georgia University, 1975. (ERIC Document Reproduction Service No. ED 120 462)

See entry #271: Georgia University, Tutor Support Library.

690. PSap(a); PSap(t); cPSpr(a); cPSpr(s)

Weir, M. W. Age and memory as factors in problem solving. Journal of Experimental Psychology, 1967, 73(1), 78-84.

Two experiments designed to assess the effect of a memory aid on problem solving skill used a sample of 6 and 9 year old Ss and adult Ss. Overall, the memory aid had no effect on adult Ss' performances; allowed 9-year old Ss to reject simple problem solving strategies that would have been repeated without; and decreased the number of correct responses among the 6-year old Ss.

691. PSap(a); PSap(p); cPSpr(a); cPSpr(s)

Wetherick, N. E. A further study of the inferential basis of concept attainment. British Journal of Psychology, 1968, 59(4), 431-435.

692. PSap(a); PSap(p); cPSpr(a); cPSpr(s)

Wetherick, N. E. The inferential basis of concept attainment.
British Journal of Psychology, 1966, 57, 61-69.

Series of studies on concept attainment examined relationships among error scores (Wetherick 1966) plus time for solution with familiar and unfamiliar symbols (Wetherick, 1968) and age using Ss ranging in age from 21 to 70 years ('66) and 8 to 69 years ('68). Data indicated that the application of the wrong operation to solution tended to rise over the adult age span, while the failure to take account of all instances presented tended to fall. Further, as problems increased in complexity, time for solution lengthened. However, older adult Ss had relatively more difficulty with unfamiliar symbols. For familiar and unfamiliar symbols time to solution tended to decrease from early childhood to early maturity; increase for older adult Ss was slight. Performances on E-devised tests ('66) were correlated to performances on the Progressive Matrices.

693. PSap(p)

Wetherick, N. E. A comparison of the problem-solving ability of young, middle aged and old subjects. Gerontologia, 1964, 9, 164-178.

Study of age as related to problem solving ability indicated that speed of solution tended to show a slight decline over adult age span.

694. PSap(t); cPSpr(a); cPSpr(s); ePS

Wheaton, G. R., et al. *Methods for predicting job-ability requirements: 4. Task characteristics, ability requirements, and problem solving strategies*. Washington, D. C.: American Institutes for Research in the Behavioral Sciences, 1975. (ERIC Document Reproduction Service No. ED 114 546)

Relationship among performances on tasks reflecting four different problem solving strategies and the abilities required for success in these strategies were studied with a sample of navy personnel. Abilities were: flexibility of closure; syllogistic reasoning; induction; associative memory; perceptual speed; speed of closure. Results indicated that abilities discriminated between tasks by strategy and ability scores correlated with criterion task performances.

695. PSap(a); PSap(t)

Whimbey, A. *The relationship between memory span, long-term memory and problem solving*. Hayward, Calif.: California State College, 1970. (ERIC Document Reproduction Service No. ED 044 761)

696. PSap(a); PSap(t)

Whimbey, A. *The importance of memory span and training in reasoning ability*. Hayward, Calif.: California State College, 1968. (ERIC Document Reproduction Service No. ED 035 039)

696. (cont'd)

Series of studies, with undergraduate Ss, on problem solving, e. g., verbal analogies, reasoning, indicated that training in problem solving reduced the load placed on short term memory. While memory capacity as measured by a digit span test was involved in aspects of storage, it was not related directly to problem solving tasks.

697. PSap(a)

White, R. M., Jr., et al. Number of pretraining problems and type of instructions in concept identification. Psychological Reports, 1971, 28(2), 643-649.

Exploration of the role of instructions (simple versus elaborate) and pretraining problems in strategic changes in problem solving strategies used a sample of M and F undergraduates. Data indicated that performances improved as a function of the number of pretraining problems completed by the Ss. No significant effects were attributable to instructions.

698. cPSpr; cPSen

White, W. F., et al. Selected personality characteristics and academic performance of adult evening college students. Journal of Educational Research, 1966, 59(8), 339-343.

Taylor Manifest Anxiety Scale, Allport-Vernon-Lindsay Study of

698. (cont'd)

Values, and an E-devised self-concept questionnaire were administered to adult male students to determine relationships among anxiety, values, and self-concept and academic performance and career choice. Anxiety did not differentiate among the Ss. Political attitude was related to academic performance; theoretical, economic, and social value dimensions discriminated among career choices. Self-concept was related significantly to academic performance.

699. cPSpr; ePS

Whittemore, R. G., Echeverria, B. P., & Griffin, J. V. Can we use existing tests for adult basic education? Adult Education, 1966, 17(1), 19-29.

Standardized tests were administered to 126 M and F adults in manpower development training program ABE classes for the purpose of assessing cognitive and noncognitive abilities. Nine standardized tests in the areas of intelligence (scholastic aptitude), achievement, aptitude, vocational interests, personality, and reading were administered over an 18-month period; results were available on a tenth test. No reliability or validity studies were completed. The following standardized tests are recommended: (1) homogeneous class grouping--GATB-G score plus Otis (revised β) for further clarification and the CTMM (short form) for language versus nonlanguage capacity; (2) reading and computation--Iowa

699. (cont'd)

Silent Reading or Gates Reading Test and DAT-numerical reasoning; and (3) personality dynamics--California Psychological Inventory and Kuder Interest Inventory (Vocational).

700. cPSpr; cPSen; ePS

Wientge, K. M. A model for the analysis of continuing education for adults. Adult Education, 1966, 16(4), 246-251.

Model for the analysis of continuing education (ABE through CPE) for adults based upon a three dimensional matrix: (1) decade of adult development, (2) degree of literacy, and (3) activity. (In relation to Dimension #1: the adult life cycle is separated into six 10-year periods.) Wherever a void occurs in the matrix, consideration is to be given to the development of an appropriate program. Research findings are to be classified within the matrix dimensions.

701. PSap(p); cPSpr(a); cPSpr(s)

Wiersma, W., & Klausmeier, H. J. The effect of age upon speed of concept attainment. Journal of Gerontology, 1965, 20, 398-400.

Exploration of the effect of age on speed of attainment and number of errors during acquisition of a concept attainment task was completed with F Ss, 20 to 51 years, in three age groups.

701. (cont'd)

Data indicated a decline in speed with increasing age but no significant increase in number of errors, although older Ss tended to make more errors. "Disuse" theory offered as explanation of results.

702. ePS; mPS

Willey, C. F. The punchboard in group-decision testing. *Psychological Reports*, 1967, *20*(3), 1209-1210.

Study with a group of undergraduate Ss led to the recommendation of the use of a self-scoring multiple-choice punchboard in group decision testing situations.

703. mPS

Williams, J. B., & Mardell, E. A. *Life Skills course for corrections*. Prince Albert, Saskatchewan: Saskatchewan NewStart, Inc., 1973. (ERIC Document Reproduction Service No. ED 108 033)

Manual presents detailed description of Life Skills course adapted for use in a correctional setting. Each unit lesson in the course is divided into sequenced phases: foundation skills; basic problem solving skills; human relations; application of problem solving and human relation skills to problem situations; application of skills to finding a job; and evaluating employability.

377f. mPS

Wise, J., & Iverson, M. J. Land use. An instructional unit for teachers of adult vocational education in agriculture. Lexington, Ky.: Kentucky University, Division of Vocational Education, 1973. (ERIC Document Reproduction Service No. ED 112 246)

See entry #377: Kentucky University, Division of Vocational Education.

704. cPSpr(s)

Witte, K. L., & Freund, J. S. Paired-associate learning in young and old adults as related to stimulus concreteness and presentation method. Journal of Gerontology, 1976, 31(2), 186-192.

Exploration of the learning ability of college students and elderly adults as related to high versus low stimulus concreteness and three presentation modes: recall, multiple choice, and matching. For all Ss, performance was best with concrete rather than abstract siimuli and with associative matching rather than recall. Older Ss required more trials to learn, made more errors of omission, and fewer correct responses.

705. PSap(a); PSap(t)

Wood, C. R. The effects of delay of knowledge of results on adult problem solving (Doctoral dissertation, University of

705. (cont'd)

Illinois at Urbana/Champaign, 1971). Dissertation Abstracts International, 1972, 32(8), 4912B. (University Microfilm No. 72-7113)

Examination of the conditions determinant of the effects of delay of knowledge of results on the performances of undergraduate students, randomly assigned to one of nine groups, was described. Overall, delay in reinforcement and the length of the interval between reinforcement presentation and presentation of next stimulus were key factors in determining the effects of knowledge of results on subsequent performance.

706. PSap(p); PSap(t); cPSpr(s)

Woodruff, D. S., & Walsh, D. A. Research in adult learning: The individual. Gerontologist, 1975, 15(5), 424-430.

Identification and discussion of learning and performance deficits which have been shown by the research to affect older adults. Intervention strategies to modify these deficits are suggested and described.

707. cPSpr

Woodruff, D. S., & Birren, J. E. Age changes and cohort differences in personality. Developmental Psychology, 1972, 6(2), 252-259.

707. (cont'd)

Examination of ontogenetic and generational changes in personality used a longitudinal (25 year, from age 19.5 to 44.5) sample and current samples of adolescents and young adults. Scores on the California Test of Personality for the longitudinal sample indicated that objective age changes in personality were small, as measured by retrospective ratings; subjective age changes were larger. Differences in personality test scores for the various cohorts were significant suggesting that objective cohort differences in personality were great; objective cohort differences were much greater than objective age changes from adolescence to middle age (findings similar to those in the area of cognition).

708. PSap(a); PSap(t); mPS

Wright, P., & Reid, R. Written information: Some alternatives to prose for expressing the outcomes of complex contingencies. Journal of Applied Psychology, 1973, 57(2), 160-166.

Study to determine the best method for presenting information for problem solving: (1) bureaucratic prose, (2) flow chart, (3) list of short sentences, or (4) table, involved the presentation of 36 fictitious problems under one of two conditions (written material available or working from memory) and one of two difficulty levels (straightforward or complex) to a sample of 68

708. (cont'd)

adults, each in one of four groups. Results indicated that a combination of factors determined the optimal way of presenting information in written form. In general, flow chart useful if problem to be solved embedded in miscellaneous information, tables useful for simpler problems, short sentences useful if information to be drawn from memory, and any one of the three an improvement over bureaucratic style.

709. PSap(p); PSap(t); cPSpr(a); cPSpr(s)

Young, M. L. Age and sex differences in problem solving. Journal of Gerontology, 1971, 26(3), 330-336.

Study investigated age and sex differences in problem solving with tasks requiring abilities to organize and to direct an inquiry toward a selected goal. Forty married couples, ranging in ages from 41 to 76 years, volunteered to participate. Results indicated that M Ss were superior to F Ss in the 40's and 50's but only on simpler problems. In the 60's the differences between M and F Ss were small.

710. PSap(p); PSap(t); cPSpr(a); cPSpr(s)

Young, M. L. Problem-solving performance in two age groups. Journal of Gerontology, 1966, 21, 505-509.

Exploration of the relationships between problem solving performances under conditions of special training procedures, techniques designed to reduce demands on short-term memory, and differing difficulty levels of problems, as a function of age, used a sample of adults from 29 to 76 years in two age groups. Performances of the older age group tended to be inferior at every level of problem difficulty; older Ss were not able to apply a solution strategy to difficult problems.

711. ePS

Young, N. P. The psychology of explanation and the measurement

711. (cont'd)

of explanatory satisfaction (Doctoral dissertation, Pennsylvania State University, 1975). Dissertation Abstracts International, 1976, 36(11), 5775-5776B. (University Microfilm No. 76-10,818)

Description of the development and pilot testing of an instrument (Young Explanatory Satisfaction Scale-YESS) designed to provide a quantitative index of adult S satisfiers as explanations of a phenomenon, by three types: precausal, descriptive, and casual. Scale based on constructs of Piaget.

712. cPSpr(m); cPSpr(s); cPSen(c); cPSen(e); cPSen(s)

Zahn, J. Some adult attitudes affecting learning: Powerlessness, conflicting needs and role transition. Adult Education, 1969, 19(2), 91-97.

Exploration of adult functioning as a learner based upon role constructs. As an adult assumes a new role he goes through stages of vacillation between old and new while overlearning behavior appropriate to the new role and integrating the new role into other roles. Adult's attitude toward any learning that is role-relevant will depend on his immediate stage of role mastery.

713. PSap(t); cPSpr(m); cPSpr(a); cPSpr(s); cPSen

Zahn, J. Dropout and academic ability in university extension courses. Adult Education, 1964, 15(4), 35-46.

Study, completed with a sample of adult students of differing ability in university credit and noncredit extension courses, recommends use of pre-enrollment counseling to assist the student in making best use of abilities in relation to goals and to take advantage of his high motivation, which has brought him to an educational program.

714. PSap(k); ePS

Zalewski, D. L. An exploratory study to compare two performance

714. (cont'd)

measures: An interview-coding scheme of mathematical problem solving and a written test. Part I. Madison, Wis.: Wisconsin University, 1974. (ERIC Document Reproduction Service No. ED 100 718)

715. PSap(k); ePS

Zalewski, D. L. An exploratory study to compare two performance measures. An interview-coding scheme of mathematical problem solving and a written test. Part II. Madison, Wis.: Wisconsin University, 1974. (ERIC Document Reproduction Service No. ED 100 719)

Theoretical base, development, and pilot testing of a problem solving test in math. are described. (Ed.: Test designed for 7th-grade students; constructs can have applicability to considerations for assessment of adult students.)

716. PSap(a)

Zelniker, T., Oppenheimer, L., & Renan, A. Effect of dimensional salience of variability on problem solving: A developmental study. Developmental Psychology, 1975, 11(3), 334-341.

Study explored the influence of dimensional salience (4-dimensions: form, color, number, and position) and of salience of variability on problem solving performance with a sample ranging in age from 5 to 20-years, in six age groups. Ss solved problems in which one dimension was relevant and the other three,

716. (cont'd)

which could be either constant or variable, were irrelevant for solution. Data indicated that dimensional salience was critical to problem solving performance.

Addenda

377a. mPS

Ashlock, I. H., & Iverson, M. J. *Greenhouse management. An instructional unit for teachers of adult vocational education in agriculture*. Lexington, Ky.: Kentucky University, Division of Vocational Education, 1972. (ERIC Document Reproduction Service No. ED 112 245)

See entry #377: Kentucky University, Division of Vocational Education.

717. PSmo; PSap(a); cPSpr

Bloom, B. S., & Broder, L. J. *Problem-solving processes of college students (Supplementary Educational Monographs No. 73)*. Chicago, Ill.: University of Chicago Press, 1950.

Exploratory investigation of problem solving processes on a selected variety of academic-type problems with a sample of college undergraduates is described. Characteristics which differentiated good from poor problem solvers are presented. The effects of remediation on the change in problem solving skills of selected Ss are discussed.

377b. mPS

Chumbler, F., Jr., & Iverson, M. J. *Farm finance. A key to the farm business. An instructional unit for teachers of adult vocational education in agriculture*. Lexington, Ky.: Kentucky University, Division of Vocational Education, 1972. (ERIC

377b. (cont'd)

Document Reproduction Service No. ED 112 247)

See entry #377: Kentucky University, Division of Vocational education.

718. cPSpr

Loevinger, J., & Wessler, R. Measuring ego development 1. San Francisco, Calif.: Jossey-Bass, 1970.

Loevinger, J., Wessler, R., & Redmore, C. Measuring ego development 2. San Francisco, Calif.: Jossey-Bass, 1970.

Detailed description of a construct of ego development and definitions of levels of ego development which provide the basis for a sentence completion technique for measuring ego development are presented. The measurement technique is explained in detail; methods of and practice exercises for scoring protocols and a scoring manual for women and girls (Volume 2) are provided.

List of Annotations by Category Codes

PS I. Problem Solving.

037; 040; 098.

PSmo IA. Models of Problem Solving.

008; 009; 020; 033; 041; 049; 057; 066; 084; 089; 104; 126; 141; 149; 151; 153; 169; 211; 212; 215; 242; 259; 296; 297; 384; 397; 402; 407; 412; 423; 439; 453; 464; 465; 488; 508; 645; 647; 657; 670; 674; 676; 717.

PSap IB. Applications of Models (identified by focus of study).

PSap(a) IB1. Aspect of problem solving.

020; 021; 025; 034; 038; 039; 041; 044; 056; 065; 068; 095; 104; 108; 111; 124; 126; 128; 131; 148; 163; 169; 181; 182; 183; 185; 186; 187; 211; 225; 226; 227; 229; 252; 261; 264; 266; 275; 281; 282; 301; 305; 317; 319; 320; 323; 325; 331; 342; 346; 347; 348; 349; 360; 361; 372; 373; 379; 386; 389; 390; 402; 405; 413; 414; 416; 423; 425; 434; 451; 456; 457; 458; 461; 480; 481; 495; 497; 507; 524; 526; 533; 562; 571; 573; 574; 575; 576; 583; 586; 601; 611; 613; 615; 616; 617; 619; 621; 637; 641; 642; 643; 652; 653; 668; 670; 672; 676; 690; 691; 692; 695; 696; 697; 705; 708; 716; 717.

PSap(p) IB2. Population or sample completing the task.

009; 038; 039; 067; 068; 098; 099; 100; 117; 133; 148; 181; 182; 184; 185; 186; 187; 227; 229; 254; 260; 264; 317; 319; 320; 323; 331; 338; 342; 345; 346; 379; 389; 461; 494; 495; 507; 524; 525; 533; 540; 559; 571; 590; 599; 600; 620; 621; 657; 691; 692; 693; 701; 706; 709; 710.

PSap(k) IB3. Knowledge area of the task content.

040; 131; 133; 168; 288; 300; 627; 635; 647; 671; 689; 714; 715.

PSap(t) IB4. Techniques for and strategies of problem solving.

014; 016; 017; 020; 021; 030; 031; 044; 046; 051; 055; 058; 059; 060; 061; 066; 067; 071; 078; 080; 081; 089; 095; 101; 109; 110; 111; 114; 115; 123; 124; 126; 127; 128; 130; 132; 135; 138; 140; 143; 149; 151; 152; 153; 155; 156; 157; 166; 168; 169; 172; 173; 174; 175; 178; 179; 180; 184; 188; 189; 196; 197; 201; 203; 220; 223; 224; 226; 230; 232; 233; 244; 245; 248; 254; 255; 258; 260; 261; 266; 267; 268; 269; 270; 275; 277; 279; 280; 283; 286; 297; 299; 304; 305; 313; 316; 318; 325; 337; 339; 342; 345; 347; 348; 355; 361; 362; 363; 365; 371; 373; 374; 375; 381; 384; 385; 387; 389; 390; 391; 393; 394; 395; 396; 400; 402; 405; 406; 408; 410; 412; 414; 423; 425; 426; 428; 433; 434; 435; 442; 444; 445; 450; 457; 458; 461; 466; 467; 468; 471; 472; 482; 494; 501; 505; 506; 510; 511; 512; 526; 528; 529; 534; 535; 539; 540; 541; 544; 548; 553; 555; 558; 560; 562; 563; 564; 571; 572; 578; 585; 589; 590; 592; 598; 600; 605; 613; 614; 615; 616; 623; 625; 632; 636; 641; 642; 643; 644; 646; 647; 648; 650; 652; 653; 654; 661; 662; 663; 668; 669; 670; 671; 672; 673; 675; 676; 684; 687; 688; 689; 690; 694; 695; 696; 705; 706; 708; 709; 710; 713.

cPS II. Correlates of Problem Solving.

cPSpr IIA. Personal Correlates.

054; 085; 093; 096; 108; 180; 316; 342; 348; 357; 366; 381; 382; 388; 389; 396; 397; 400; 401; 402; 407; 408; 424; 426; 427; 428; 431; 455; 472; 513; 514; 525; 545; 547; 553; 563; 566; 567; 568; 569; 570; 598; 607; 609; 617; 627; 628; 640; 645; 651; 663; 672; 676; 678; 679; 681; 685; 687; 688; 689; 698; 699; 700; 707; 717; 718.

cPSpr(m) IIA1.Motivational traits.

019; 027; 033; 036; 052; 058; 062; 070; 073; 078; 087; 088; 092; 094; 097; 103; 104; 105; 121; 125; 140; 147; 152; 170; 174; 175; 193; 195; 196; 199; 204; 216; 221; 285; 292; 307; 318; 341; 343; 354; 356; 363; 364; 365; 372; 387; 394; 395; 399; 406; 414; 445; 447; 450; 468; 483; 489; 491; 498; 502; 505; 506; 509; 511; 535; 536; 537; 540; 543; 554; 597; 612; 622; 629; 644; 650; 667; 675; 677; 682; 683; 712; 713.

cPSpr(a) IIA2.Aptitude traits.

002; 026; 029; 030; 038; 043; 046; 047; 052; 055; 058; 063; 064; 076; 078; 088; 098; 111; 113; 116; 121; 141; 146; 147; 193; 195; 205; 217; 230; 233; 234; 239; 243; 254; 261; 273; 277; 280; 285; 289; 290; 301; 305; 307; 312; 317; 319; 329; 331; 333; 335; 336; 338; 341; 343; 344; 345; 346; 347; 349; 354; 356; 363; 367; 372; 373; 378; 379; 387; 390; 394; 395; 398; 406; 413; 414; 415; 416; 430; 433; 434; 435; 438; 445; 450; 452; 466; 467; 468; 469; 475; 491; 495; 498; 511; 519; 522; 524; 530; 538; 540; 542; 543; 544; 560; 571; 573; 574; 575; 576; 583; 586; 590; 591; 597; 600; 606; 608; 619; 620; 621; 622; 623; 624; 632; 633; 635; 637; 644; 650; 653; 668; 682; 690; 691; 692; 694; 701; 709; 710; 713.

cPSpr(s) IIA3.Personal traits.

019; 025; 026; 029; 037; 038; 039; 051; 052; 058; 064; 065; 066; 067; 076; 077; 082; 088; 098; 099; 100; 102; 104; 112; 115; 117; 127; 136; 146; 148; 159; 163; 176; 177; 178; 190; 205; 213; 217; 227; 229; 230; 233; 234; 239; 243; 252; 256; 258; 260; 261; 263; 264; 265; 270; 273; 277; 278; 279; 280; 282; 284; 285; 287; 289; 290; 298; 301; 305; 307; 310; 312; 317; 319; 320; 323; 325; 326; 329; 330; 331; 333; 335; 336; 338; 341; 343; 344; 345; 346; 347; 349; 354; 356; 360; 363; 364; 365;

cPSpr(s) IIA3. Personal traits (continued).

368; 371; 372; 373; 378; 379; 384; 386; 387; 390; 394; 395; 406; 413; 415; 416; 430; 433; 434; 438; 447; 451; 452; 468; 469; 474; 475; 483; 487; 491; 494; 495; 498; 505; 506; 509; 511; 519; 522; 524; 526; 530; 533; 534; 537: 538; 540; 542; 543; 544; 560; 561; 571; 583; 586; 590; 591; 597; 600; 601; 603; 605; 606; 608; 618; 619; 620; 621; 623; 624; 629; 635; 644; 648; 650; 653; 654; 666; 667; 674; 682; 683; 690; 691; 692; 694; 701; 704; 706; 709; 710; 712; 713.

cPSen IIB. Environmental Correlates.

042; 075; 083; 086; 096; 108; 114; 180; 198; 200; 240; 242; 307; 316; 342; 343; 348; 356; 357; 364; 366; 368; 372; 381; 382; 388; 389; 392; 394; 395; 396; 397; 399; 400; 401; 402; 406; 407; 408; 424; 426; 427; 428; 431; 438; 439; 455; 472; 483; 498; 500; 513; 514; 519; 522; 530; 536; 537; 540; 543; 544; 545; 547; 553; 554; 563; 566; 567; 568; 569; 578; 597; 598; 607; 617; 622; 627; 628; 629; 640; 645; 651; 663; 669; 672; 676; 678; 679; 682; 687; 688; 689; 698; 700; 713.

cPSen(c) IIB1. Cultural factors.

112; 159; 170; 183; 189; 231; 234; 263; 279; 280; 289; 290; 298; 310; 312; 325; 326; 329; 335; 336; 354; 447; 538; 564; 594; 608; 658; 712.

cPSen(e) IIB2. Economic and geographic factors.

159; 234; 310; 325; 329; 354; 432; 564; 658; 712.

cPSen(s) IIB3. Societal factors.

035; 070; 085; 107; 112; 125; 159; 170; 189; 205; 231; 234; 260; 267; 268; 269; 273; 279; 290; 310; 312; 314; 325; 326; 329; 330; 335; 336; 341; 353; 354; 365; 378; 391; 432; 447; 466; 491; 534; 535; 538; 561; 564; 594; 616; 658; 683; 712.

ePS III. Evaluation of Problem Solving.

002; 013; 015; 016; 017; 022; 024; 032; 033; 050; 053; 057; 061; 069;
074; 079; 087; 088; 090; 095; 097; 103; 104; 106; 117; 127; 134; 136;
138; 145; 150; 155; 164; 165; 167; 179; 188; 191; 193; 202; 218; 219;
241; 247; 249; 250; 251; 252; 255; 259; 262; 284; 291; 292; 293; 308;
311; 321; 327; 335; 336; 349; 360; 392; 393; 397; 398; 400; 402; 417;
428; 429; 437; 452; 454; 462; 464; 465; 476; 478; 479; 491; 499; 511;
523; 553; 561; 565; 570; 579; 582; 587; 588; 599; 602; 603; 615; 625;
628; 630; 636; 637; 654; 656; 664; 666; 672; 680; 687; 688; 694; 699;
700; 702; 711; 714; 715.

mPS IV. Materials for Developing Problem Solving Skills and Strategies.

001; 003; 004; 005; 006; 007; 008; 010; 011; 012; 013; 015; 016; 017;
018; 021; 023; 030; 033; 045; 046; 048; 054; 061; 072; 079; 091; 093;
101; 108; 111; 118; 119; 120; 122; 129; 132; 137; 139; 142; 143; 144;
150; 154; 155; 158; 159; 160; 161; 162; 171; 172; 179; 192; 194; 199;
206; 207; 208; 209; 210; 212; 214; 220; 222; 223; 224; 228; 231; 232;
235; 236; 237; 238; 240; 244; 246; 249; 250; 251; 253; 257; 258; 266;
271a; 271b; 271c; 271d; 271e; 271f; 271g; 271h; 271i; 271j; 271k; 272; 274;
276; 283; 286; 294; 295; 299; 302; 303; 304; 306; 309; 313; 314; 315;
316; 318; 322; 324; 328; 332; 334; 337; 339; 340; 350; 351; 352; 353;
355; 358; 359; 362; 369; 370; 376; 377a; 377b; 377c; 377d; 377e; 377f;
380; 383; 385; 388; 393; 403; 404; 409; 411; 418; 419; 420; 421; 422;
429; 430; 432; 433; 436; 437; 440; 441; 442; 443; 444; 446; 448; 449;
450; 453; 459; 460; 463; 466; 468; 470; 471; 472; 473; 477; 484; 485;
486; 490; 492; 493; 496; 499; 501; 503; 504; 508; 510; 512; 513; 514;
515; 516; 517; 518; 520; 521; 523; 527; 528; 529; 531; 532; 536; 539;

mPS IV. Materials for Developing Problem Solving Skills and Strategies (continued).

546; 548; 549; 550; 551; 552; 553; 554; 555; 556; 557; 558; 559; 565; 572; 577; 578; 580; 581; 582; 584; 585; 588; 589; 593; 595; 596; 599; 602; 604; 605; 610; 614; 615; 625; 626; 628; 631; 632; 634; 638; 639; 643; 646; 647; 649; 655; 656; 657; 659; 660; 661; 662; 663; 665; 671; 672; 673; 675; 680; 684; 686; 687; 688; 702; 703; 708.

APPENDIX

Information about adult basic education programs/projects and materials, by state or province, is included on the pages which follow. The data were supplied in response to either an announcement in the Adult Education Association "Dateline," or a letter circulated to selected adult education projects listed in "Competency-Based Adult Education Profile and Related Resources" published by the Division of Adult Education, U. S. Office of Education, Department of Health, Education, and Welfare, November 1976.

Adult basic education programs/projects and materials listed by state.

1. a. Program Identification.
   Dr. James H. Mason, Jr., Program Director
   Huntsville City Schools
   Adult Education Program
   2627 Hall Avenue, N.W.
   Huntsville, Alabama 35805

   b. Materials.
   Burton, J. C., & Wilson, P. Career decision-making guide for adult basic education teachers. June 1975.
   Purpose: A career-decision making model was developed to enable the ABE teacher help the disadvantaged adult increase his educational achievement and make a realistic career decision based on personal values.

   c. Cost. No information.

2. a. Program Identification.
   Adult Basic Education Section
   Alabama State Department of Education
   Montgomery, Alabama 36130
   attn.: Bobbie L. Walden, Education Specialist

   b. Materials.
   Smith, J. Learning information for effective living. Adult coping skills reading modules. Bulletins No. 17 & 18. Alabama State Department of Education. 1976.
   Hargrove, Y. Teaching reading using adult performance level modules. Bulletin No. 19. Alabama State Department of Education. 1976.
   Purpose: Reading modules developed to provide variety, creativity, and motivation, give ABE teachers an insight into effective and innovative ways of teaching immediate reading skills to nonreaders. Practical and low level reading materials based on APL goals and objectives are used to provide minimal survival and life coping skills.

   c. Cost. No cost; materials may be duplicated.

3. a. Program Identification.
   Elaine S. Marshall, Director
   Adult Reading Academy
   Northeast Alabama State Junior College
   Rainsville, Alabama 35986

   b. Materials.
   The APL Implementation Guide, "Realistic Reading for Adults," project is still in progress and should be available in several months.

3. (cont'd)

   c. Cost. Not available.

4. a. Program Information.

   Elna M. Dimock, Project Coordinator
   309 Project - Clovis Adult School
   Clovis Unified School District
   5545 East Herndon Avenue
   Clovis, California 93612

   b. Materials.

   Adult competency-based curriculum modules, reading level grades 0 to 4, APL Level 1, are being developed currently. Completion of project anticipated for 1978.

   c. Cost. Not available.

5. a. Program Information.

   Joe Cooney, Project Director
   Adult Competency Education Project
   San Mateo County Office of Education
   609 Price Avenue
   Redwood City, California 94063

   b. Materials.

   Adult Competency Education Project.
   Purpose: One hundred competency based job descriptions are used to pretest student abilities and design subsequent learning programs.

   c. Cost.

Complete set of 50 job descriptions	$25.50
10 or fewer job descriptions of any kind	.75 each
More than 10 job descriptions of any kind	.50 each

6. a. Program Information.

   Dr. James Hardison, Project Director
   4395 El Cajon Boulevard
   San Diego, California 92105

   b. Materials.

   Information Collection and Dissemination System.
   Purpose: ICDS is designed to promote circulation of instructional information on new materials and methods through (1) Need and Response File, (2) Call-in Consultation, (3) Peer Aid Consultation, and (4) Field Consultant Service, in order to implement competency-based education and adult performance level in ABE/ESL programs.

   c. Cost. No information.

7. a. Program Information.
Ms. Jeanette Crum
Project Link
Kishwaukee College
Malta, Illinois 60150

b. Materials.
Alkasab, H. (Coord.). Project Link (interim report). 1977.
Purpose: The report concerns context, needs assessment, curriculum and materials, reading program, testing, evaluation design, resources, conclusions and recommendations.

c. Cost. No information.

8. a. Program Information.
Barbara M. Wilson
Director, Project Choice
104 West University
Urbana, Illinois 61801

b. Materials.
APL Program.
Purpose: The curriculum consists of course work, like skills, and competency areas, and leads to a regular high school diploma. Units of study include consumer economics, occupational knowledge, government and law, and health.

c. Cost. No information.

9. a. Program Information.
Latin American Family Education Program
640 Jefferson Street
Gary, Indiana 46402

b. Materials.
Gill, M. (Ed.). Survival guide. 1976.
Purpose: Concise information and directions are provided to teach coping skills through in-class and out-of-class activities, teacher-made and commercially available materials, field trips, and speakers (developed for Spanish-speaking students).
Rodriguez, P. A practical guide for teaching survival English. 1976.
Purpose: Manual for implementing Survival guide.

c. Cost. No information.

10. a. Program Information.
Gerald Kulm
Math-Science Building
Purdue University
West Lafayette, Indiana 47906

10. (cont'd)

b. Materials.

Kulm, G., & Campbell, P. Consumer based remedial mathematics for adult basic education. Paper presented at the Fourth National Conference on Diagnostic and Prescriptive Mathematics. Baltimore, Md.: University of Maryland, March 31 to April 2, 1977.

Purpose: Modules containing adult level questions of real-life problems are used to teach basic computational skills and applied computational skills in order to meet the need for basic consumer mathematics remediation.

c. Cost. No information.

11. a Program Information.

Kathy Brock, Coordinator
ABE/Home Economics
Northwest Iowa Technical College
Highway 18 West
Sheldon, Iowa 51201

b. Materials.

ABE units at preGED and GED levels include: Catalog Buying; Comparison Shopping; Housing Dollars; Housing; Casualty Insurance; Life Insurance; Home Mortgage I and II; Car Insurance; Installment Buying; Consumer Protection; Health Insurance.

c. Cost. $30.00 for set of modules; can be duplicated.

12. a. Program Information.

Benjamin Herman, Supervisor of Publications
Maryland State Department of Education
P. O. Box 8717, BWI Airport
Baltimore, Maryland 21240

b. Materials & Cost.

c. Order forms for the Functional Resource Manual for Teachers, Volumes 1 and 2 ($3. each) and for filmstrips and cassettes of A Revolution in Reading: Teaching Functional Reading (large set $25., small set $12.) were made available.

13. a. Program Information.

Bill Verbeck, Project Director
The Alliance of City Schools
Office of Community Education
1450 Box Butte
Alliance, Nebraska 69301

b. Materials.

A bibliography of APL related resource materials was made available. An APL Project is currently in progress.

13. (cont'd)
    c. Cost. No information.

14. a. Program Information.
    Patricia Voorman, Project Director
    Fair Lawn Community School
    P. O. Box 8
    Fair Lawn, New Jersey 07140

    b. Materials.
    Designing Model Consumer Education Units for ABE and Adult Handicapped Students.
    Purpose: Expectations are to develop 40 units covering Money Management, Shopping Techniques, World of Work, Nutrition, and Consumer Concerns. Project material not available for dissemination as of April 1977.

    c. Cost. No information.

15. a. Program Information.
    Evelyn C. Davis, Ed.D.
    Director, Adult Education Program
    Memphis State University, College of Education
    Memphis, Tennessee 38152

    b. Materials.
    "Learning for Living" modules (3 currently available).
    Purpose: Complete instructional packages are based on three adult performance level knowledge areas: (1) Occupational Knowledge ($14.03), (2) Government and Law ($62.50), and (3) Health ($22.89). Each module includes a teacher's manual, expanding file with folders, and supplementary resources. (Additional modules under development.)

    c. Cost.
    (1) Teacher's manual: purchased separately for $30.
    (2) Entire module bag and contents: cost of teacher's manual plus exact cost of resources in the module purchased (see above) plus $3. handling charge.

16. a. Program Information.
    Norvell Northcutt, Director
    Adult Performance Level Project
    University of Texas at Austin
    Extension Building, Room 202
    Austin, Texas 78712

    b. Materials.
    Hickok, D., & Shelton, E. (Compls.). *The ABC's in APL: An annotated bibliography of materials related to the adult performance level general knowledge areas*. 1976.

16. (cont'd)

Purpose: The bibliography provides the ABE teacher with a selection of materials relating to one or more APL project performance requirements which are organized by APL general knowledge areas and objectives, and be ABE reading levels.

c. Costs. $5.95 + postage & handling.

17. a. Program Information.
Florence Wesselius, Coordinator
Adult Basic Education
Gateway Technical Institute
3520 30th Avenue
Kenosha, Wisconsin 53140

b. Materials

Stoehr, K., & Wesselius, F. Curriculum guide and project summary.

Purpose: Details of educational activities in prevocational training for handicapped adult students and adult students with special needs are given.

c. Cost. No information.

Canadian adult basic education programs/projects and materials.

1. a. Program Information.
A. D. Smith, Senior Consultant Generic Skills
Occupational and Career Analysis and Development Branch
305 Rideau Street
Ottawa, Ontario K1A 0J9

b. Materials.
Smith, A. D. *Generic skills. Research and development*. 1975
Smith, A. D., & Hatton, J. T. *Generic science skills*. 1977
Smith, A. D., et al. *Generic skills in the reasoning and interpersonal domains*. 1974
Purpose: Report describes the generic skills research and development project which was designed to (a) develop a simple and coherent system for the identification of skills used by workers in any occupation, (b) collect and analyze skill data from a variety of occupations as a basis for developing occupational training specifications, and (c) develop training packages for identified generic skills, Specific examples of the application of the system are included for the (a) reasoning and interpersonal domains, and (b) science skills.

c. Costs. No information.

2. a. Program Information.
Joseph A. Jeanneau, Director
Centre for Training Research and Development
154 8th Street, E.
Prince Albert, Sasketchewan S6V 5T2

b. Materials.
Descriptive materials cover these programs:
(1) Fluency First. An Oral English Course.
(2) Life Skills Course -- designed to provide education and practice in problem solving behaviors which are to be applied to the management of personal affairs; specifically (a) developing oneself and relating to others, (b) coping with home and family responsibilities, (c) using leisure time purposefully, (d) exercising rights and responsibilities in the community, and (e) making responsible decisions for work future.
(3) LaRec -- program for developing language through recreation.
(4) Adult Basic Education -- (a) The Blade Program of basic literacy for adult development provides instruction in communications and mathematics, grades 1 to 4; and (b) LINC, Learning Individualized for Canadians, an instructional program for adults who want to prepare to enter vocational training and achieve personal coping skills through improving competency in communications and mathematics needed in everyday personal, home, work, and community lives; entry level is grade 4, leaving level is grade 10.

2. (cont'd)

(5) Band Development Training Program -- designed to train community leaders desirous of acquiring personal and economic development skills and knowledge and problem solving skills related to helping a community develop.
(6) Handbook of Adult Curriculum Development.
(7) Generic Skills (see #1-above).
(8) Small Business Management Training Materials.
(9) Program Evaluation Reports and Research Studies.
(10) Books and manuals related to adult education.

c. Cost. Price list supplied on request.